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OF THE  
INTERNATIONAL RAILWAY CONGRESS  
ASSOCIATION  
(ENGLISH EDITION)

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[ 388. (06.112) ]

NINTH SESSION

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ROME : APRIL 1922

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GENERAL PROCEEDINGS

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4<sup>th</sup> Section : GENERAL

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INAUGURAL MEETING

19 April 1922 (morning).

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PROVISIONAL PRESIDENT, Sir EVELYN CECIL,  
MEMBER OF THE PERMANENT COMMISSION OF THE ASSOCIATION.

**The President.** (In French.) — I have been entrusted by the Permanent Commission with the starting up of the 4<sup>th</sup> section, and to preside at the election of your officers.

I suggest to you, as nominated by the Permanent Commission, that the following gentlemen be elected :

*President :*

Mr. J. PAUL, manager of the Midi Company of France.

*Vice-presidents :*

Mr. W. ATTERBURY, vice-president in charge of Operation, Pennsylvania Railroad. (Member of the Permanent Commission);

Mr. A. DEJEAN, manager of the State Railways of France;

Mr. J. DE OLIVEIRA SIMÕES, engineer, general manager of commerce and communications (Portugal);

Mr. H. VAN DER MINNE, civil engineer,

member of the Council of Supervision in the Ministry of the Waterstaat (Holland).

*Principal Secretary :*

Baron C. KRAYENHOFF, divisional chief of the Dutch Railways.

(*Applause.*)

— These proposals were approved.

Mr. Paul. (In French.) — I thank you for the honour you have conferred on me in asking me to preside over your work. I feel that this is an honour to the French railways whom I represent, and I wish to thank you in their name.

We will arrange our work, and I will see that it is carried out so that you may

have time to make the numerous and interesting visits that have been arranged for us here in Rome.

I do not propose making a speech. I only desire to express a wish that the discussion of the subjects set for this section may be carried out with the cordial good feeling which exists between us. We desire that from the discussions, useful information for our railways may result, as this is the object of the International Association; its realisation in railway work makes for fresh progress. (*Applause.*)

— The section then completed its Secretariat and arranged provisionally the order in which the work should be taken.

[ 656 .23 ]

## QUESTION XIII

### NET COST. RATES

*Determination of the net cost of carriage (passengers and goods), taking capital charges into consideration. Its relation to rates charged.*

#### Preliminary documents.

1<sup>st</sup> report (America), by Mr. F. HARRISON. (See English edition of the *Bulletin* of September-October 1914, p. 857, or separate issue [with red cover] No. 5.)

2<sup>nd</sup> report (all countries, except America), by Mr. HENRY-GRÉARD. (See English edition of the *Bulletin* of February 1922, p. 331, or separate issue [with red cover] No. 58.)

3<sup>rd</sup> report (America), by Mr. S. O. DUNN. (See English edition of the *Bulletin* of January 1922, p. 123, or separate issue [with red cover] No. 53.)

Special reporter : Mr. HENRY-GRÉARD. (See English edition of the *Bulletin* of April 1922, p. 745.)



## SECTIONAL DISCUSSION

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Meeting held on 19 April 1922 (morning).

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Mr. PAUL, PRESIDENT, IN THE CHAIR.

The President. (In French.) — I will call on Mr. Henry-Gréard, *special reporter*, who has undertaken to present a summary of the different reports relating to this question.

Mr. Henry-Gréard then read the special report which he had drawn up and which was published in the April 1922 number of the *Bulletin*.

The President. (In French.) — Gentlemen, you have just heard read a summary of the reports received on this very important question of net cost in relation to rates, which is a daily problem as far as railways are concerned. I am asking therefore the delegates that are present if they have any observations to make, either as regards average net cost or as regards partial net cost, the relation of which is even more directly connected with our daily work of every instant.

If no one has any remarks to make, I propose that the summary which

Mr. Henry-Gréard has just submitted to us be adopted by the section.

Mr. Henry-Gréard. (In French.) — We are in the position of having to face three summaries, those of the two American reports and that of my own.

The President. (In French.) — It would be advisable then to combine these summaries in such a way that I can submit to the section to-morrow one list of resolutions only.

Mr. Henry-Gréard. (In French.) — That is just what I was going to suggest should be done.

The President. (In French.) — We will therefore submit to you to-morrow, Gentlemen, a résumé in which the summaries of the three reports sent in on this subject are combined, and should be glad if you would be good enough to let us hear from you on the methods you have tried to bring the matter to a successful issue on your respective railways.

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Meeting held on 20 April 1922 (morning).

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Mr. PAUL, PRESIDENT, IN THE CHAIR.

The President. (In French.) — Gentlemen, before submitting to you the ré-

sumé relating to question XIII, I beg to reopen the discussion on this subject.



I endeavoured in vain to do this yesterday, but trust to have the pleasure of being more successful this time.

After the end of the meeting yesterday, Mr. Dunn, who was unable to be present, and Mr. Serani, who had been somewhat unwell, informed me that they would like to make some remarks, and I naturally replied that they would be able to do so today.

As Mr. Dunn has not yet arrived, I call upon Mr. Serani to speak.

Mr. Serani, Italian State Railways. (In Italian and in French.) — The interesting reports on this question given by Messrs. F. Harrison, S. O. Dunn and Henry-Gréard, and published in the *Bulletin of the Association*, fix the essential principles necessary for solving the problem as accurately as possible, and at the same time, as they point out the difficulties to be contended with in determining the net cost of both fast and slow transport, they fix the essential principles which should allow the problem to be solved with the greatest approximation possible.

I have already endeavoured to get out by other means some figures that would be sufficiently approximate to give the net cost of both passenger and freight transport.

I do not know if my article on the subject will be published in the *Bulletin of the Association*, but it has been sent to Mr. Henry-Gréard, and it is on account of what he has said about it in his report, which appeared in the *Bulletin* of December 1921, that I have thought it worth while to call your attention to it, in the hope that you will test it on your respective railway systems, or at least supply me with the necessary details to enable me to undertake this work myself.

My article starts with the hypothesis

that the net cost per axle-kilometre is the same for fast as for slow traffic. Mr. Henry-Gréard, however, rightly points out that the reasons on which this hypothesis is based should be properly proved. This is precisely what I have endeavoured to do, and in a paper, some copies of which I am placing at your disposal, I have shown that by acting on this hypothesis, results are obtained which approximate very closely to those found by Mr. Henry-Gréard himself in a general way, so that these results therefore make the hypothesis a plausible one.

The application of my method, which I should like to apply to other railway systems, would allow me to establish at once a differentiation between the cost of the express axle-kilometre and that of the freight axle-kilometre.

If you will be good enough to enter into this way of thinking, I would beg of you, Gentlemen, not to consider the question as exhausted, and I am sure you will decide that it should be gone into again at the next session of the Congress.

The President. (In French.) — Would Mr. Serani be good enough to explain the principles of his method?

Mr. Serani. (In French.) — My method is based on the axle-kilometre taken as the unit of value for express and for slow traffic. The costs therefore are distributed over the whole of the axle-kilometres of the express traffic and the freight traffic. Account must be taken of the revenue derived from the postal and luggage traffic. By afterwards taking as base the average composition of express and goods trains, and then on their useful composition, the net cost per useful axle-kilometre of these two classes of trains is separately arrived at.

As may be seen from the detailed



information in my articles, this method has led to the following results : 1° by only taking into account the running and traffic costs and those for haulage and rolling stock, the net cost of the express train-kilometre and that of the freight train-kilometre are very nearly in the proportion to one another as 1 is to 2; 2° when taking the whole of the costs into consideration, the net cost of the express train-kilometre is lower by 50 to 40 % than the net cost of the freight train-kilometre; 3° finally, and this I think is the most important, the net cost of the gross freight tonne-kilometre is lower by 20 to 25 % than the net cost of the express gross tonne-kilometre.

My method therefore as regards the Italian State Railways gives results quite comparable with those given by Mr. Henry-Gréard for the Orleans and other French railways.

Mr. Henry-Gréard. (In French.) — Gentlemen, Mr. Serani's observations appear to me as interesting as those in his article itself, but there are two points on which I do not agree, and on which I should be glad if he would kindly give us some explanation.

First of all it appears to me that the base which Mr. Serani has adopted, namely, the uniformity of the value of the axle-kilometre, is only a hypothesis which may be correct, but first of all should be proved.

I believe that the majority of engineers who have studied the question of net cost, whether in America or in France, have come to the conclusion that it is absolutely necessary not to rely on a general *a priori*, but to take up the costs of each article over a period of several successive years so as to minimise any accidental sources of error, and by fixing valuations according to the articles that are being

considered, either pro rata of the axle-kilometres, or pro rata of the gross tonne-kilometres, or according to any other process.

That is the first point on which I should like to have some explanations. What proof can Mr. Serani advance to enable him to state that the axle-kilometre may be accepted as basis for the valuation of all the costs?

The second point which I should like to be made clearer is the following. Mr. Serani has informed us that his method led to very similar results to those I mentioned in my report resulting from the working of the method I suggested on the Orleans Railway.

This is an interesting coincidence which I dare not call somewhat strange, but which I believe to be pure chance.

The method which I have advanced does not give the same results when applied to other railway systems, as I discovered when it was tried on the French Nord Railway. This has a quite different class of traffic to that of the Orleans, the latter having generally long lines branching into agricultural districts with comparatively a small number of passengers. On the other hand the Nord Railway lies chiefly in manufacturing districts with relatively short lines serving a very dense population. This is so marked that the results found differed sensibly from those I obtained on the Orleans Railway, and I remember especially the comparison that was made of the costs per kilometre between the express passenger trains and goods trains. From the figures we were able to prove that on the Orleans, passenger trains were run at a loss, whilst on the Nord they were profitable, which is not at all contradictory when the different classes of traffic are taken into consideration.



The coincidence which Mr. Serani has pointed out in comparing his results and mine does not appear to me to be a convincing proof of the accuracy of the method he proposes, for it is simply a coincidence and not a proof.

I am sure that with this question of net cost we must not start with formulæ of too general a nature, and that only the detailed examination of the different categories of expenditure, and using for each one of them the appropriate coefficient of distribution, can lead, not to absolute certain results, but to a fair approximation.

The President. (In French.) — Are there any remarks that Mr. Serani would like to make?

Mr. Serani. (In French.) — I have not precise information from other railways which would allow my system to be tested, and this is why I suggested that the question should be further gone into from this point of view. I should like to say that the coincidence between the results obtained by myself and those pointed out by Mr. Henry-Gréard were verified, not only from one year's balance sheet, but for five, distributed over three quite different periods (before, during and after the war) namely : 1912-13; 1916-17; 1918-19; 1919-20 and especially 1920-21. Agreement like this cannot be the result of chance and should not appear strange, but rather be considered as confirming the truth of the hypothesis on which my method is based. One must remember also that it is absolutely necessary to have a starting point in order to obtain figures.

I would further point out that the working of the Orleans Railway must differ considerably, even as regards traffic, from that of the Italian State, which

gives further weight to the agreement in the results which we are considering.

Mr. Henry-Gréard. (In French.) — I shall be pleased to furnish you with any information on the subject which it is in my power to give you.

Mr. Serani. (In French.) — I thank Mr. Henry-Gréard for his kind offer, and if the question is brought forward later on, I will profit by it, all the more willingly because in the statistics, including those published on the French railways, certain necessary details are wanting in order to apply my system of circulation.

The President. (In French.) — You have put forward hypotheses which have given you a certain result, but only as regards the Italian railway system. If we applied them to foreign railways, French or others, which differ greatly, we should probably arrive at very different results, and from these different results we should not be able to deduce the proof that your method is right.

Mr. Serani. (In French.) — I did not state that the net cost on Italian railways is the same as that on foreign railways, as each system will have a different net cost. It is not a question of showing that my method is better or worse than another, but rather of calculating an average net cost in order to form a concrete idea of the net cost of transport on any given railway, and I believe that by making use of my method it is possible to find an approximate net cost which will serve as a reliable guide.

The President. (In French.) — These hypotheses are very arbitrary, and this is a method which appears to me to be of a contentious nature. How is it possible to know that it is really a good one?



Mr. Payet, French State Railways. (In French.) — How have you arrived at the hypothesis that the cost per axle-kilometre is the same both for express and goods traffic?

Mr. Serani. (In French.) — I have formed this hypothesis from a mass of details and investigations previously made.

If, in order to give a general idea of the subject, we consider a passenger or express train, we are able to find out, for instance, that the additional cost of the staff which occurs as compared with a similar goods train running over the same distance is compensated for by the shorter working hours. In a similar way, the larger amount of fuel consumed, which is intimately connected with high speed, over a similar distance and loading is counterbalanced by the longer time the engine is in steam when it is pulling a slower train, and so on. I have also taken into account, for instance, the fact that as empty wagons have to be taken from yards and sidings and coupled up to goods trains, so it is also necessary to take away empty coaches, etc. Now from this mass of details the influence of which is felt in the running of passenger and goods trains, and which becomes more complicated with stations dealing with both classes of traffic, I think it possible to conclude that it is reasonable to admit as regards general running, and as a *fundamental starting point in the investigation of the net cost of transport*, one average cost only per axle-kilometre, and this hypothesis has been proved correct by the results which I have amply put forward.

The President. (In French.) — How would the results obtained by comparing different railway systems prove that this method is good or bad?

Mr. Serani. (In Italian.) — As far as I am aware, no other methods but my own have been tried on our railways, and no unfavourable comment has been made to me by other specialists, who have to the contrary spoken well of my scheme. As regards the value of it, I may say that it should be compared with other methods giving concrete results.

The President. (In French.) — I quite understand that any particular method may give interesting results, and the best we can say in order to resume this discussion is that for any particular railway a comparison made of the results obtained by any particular method should be of value to that railway and give it a fair idea of the net cost.

Mr. Serani. (In Italian.) — I agree with the conclusion arrived at by Mr. Fairfax Harrison, that these are only results arrived at by comparison which will nevertheless enable us to form an opinion as regards net cost.

The President. (In French.) — I now call upon Mr. Dunn.

Mr. Dunn, *reporter*. — I have no observations to bring forward.

The President. (In French.) — Has Mr. Serani no collaborators who have tested his method, and are there no representatives of other railways who have made a special study of this question?

Mr. Serani. (In Italian.) — I have no collaborators, but I have already said the specialists who have examined my method think well of it.

Mr. Mereutza, Roumanian State Railways. (In French.) — The distribution of costs between various running costs, passenger and goods has been mentioned,



and there is something that might be said on the subject.

If the net cost of the whole transport dealt with is calculated, you will find that one portion of it does not tally with the whole quantity of goods. With private companies, conveyance of goods is accomplished according to fixed rates, and if these are calculated they will be found to come to about the true net cost. This does not, however, apply to State railways on which certain goods are carried at a reduced rate, and this should be taken into account in order to calculate the real net cost, so that this may be properly compared with the net cost of other railways.

The President. (In French.) — It is necessary when considering net cost to take into consideration all transport, but the charges paid by individuals do not concern net cost which is the result of expenditure. What you are looking at is the financial balance sheet, but the question before us concerns the valuation of the expenditure incurred by a railway system between the passenger traffic on the one hand and the goods traffic on the other.

Mr. Merentza. (In French.) — In this case, calculating net cost would be of no use if account is not taken of transport carried at other prices than those fixed by the ordinary rates, and it would be impossible to make comparisons with other railways and test if the rates are reasonable or not.

The President. (In French.) — This is a big question.

Mr. Merentza. (In French.) — On State railways this verification cannot be made, because the rates are not applied to all effective transport.

The President. (In French.) — You conclude therefore that on account of the lowering of rates on State railways the loss in receipts compared with expenditure will be greater than on other railways.

Mr. Serani. (In Italian.) — With my system I have taken into account the expenditure which the State may charge the railway companies with.

Mr. Payet. (In French.) — As a representative here of a State railway, I should like to point out that Mr. Serani's observation applies to a country in which there is only one State railway.

The President. (In French.) — This exchange of observations leads me to disentangle the philosophy of the work sent in on the question of net cost from the remarks which have been made on the subject.

From this work two tendencies seem to spring. The first of which assigns to the investigation of the average net cost, an importance such that this net cost influences the rating when those railways having this tendency are master of their own rates. From this it may be seen that with the desire to balance their receipts and expenditure, they endeavour to find out the net cost as regards both goods and passengers which they have to carry.

The other tendency which seems to have been put forward in Mr. Henry-Gréard's report leaves on one side net cost in order to give more importance to the financial balance sheet of the railways by comparing each year the receipts and expenditure of working, and taking into account all the financial costs of the undertaking.

When, however, all the railways are in deficit, what must be done in order to



make things balance? Evidently, in the first place, expenditure must be reduced as much as possible, and, on the other hand, receipts increased. In order to do that, is it necessary to know how much it costs to carry a passenger or a ton of goods? I do not think so.

What should be done in order to increase receipts? There are two solutions of the problem which appear possible. The first is to wait in readiness for the revival of trade, to wait till the number of passengers increases and the goods traffic develops. In this way we shall eventually obtain an increase in receipts. There will then be a tendency to reduce the railway's deficiency in working, and its financial situation will improve daily.

The other solution which I think preferable is to be more go ahead and do what is possible to develop traffic. This is the duty of all in countries where the critical situation, due to the war, is still so acute.

Increasing traffic by the reduction of rates is all very well, but then the question arises: To what extent can this be done? It would be necessary to arrange matters in such a way that not only is there an increase in the gross receipts, but that the net result of the receipts should be positive, or put another way, the increase of receipts taken in bulk should be more than the increase in expenditure or of the partial net cost resulting from this increase in traffic.

In countries where average net cost is not taken into account, it is necessary, if judicious decreases in the rates are to be made, to consider this partial net cost in order to form an idea of the additional increase in traffic and of the additional increase in expenditure which this extra traffic brings about on the railway, and

if it is desired that the latter be well managed, it should be seen that the increase of receipts is greater than the increase in expenditure resulting from this extra traffic.

I think that the important point of the question we are dealing with lies in that direction, for it is the partial net cost which should in my opinion unite the two ideas which have been referred to.

If no one has any further remarks to make, I will submit to you, Gentlemen, the summary that Messrs. Henry-Gréard and Dunn have prepared:

« 1° The splitting up and allocation of the total expenditure between the various classes of traffic is possible on condition that each subject involving expenditure is independently examined and, if necessary, tests made of concrete examples.

« In America this allocation is obtained by the statistical method which the Interstate Commerce Commission has recently put into operation. »

— Adopted.

« 2° A proper allocation of capital charges offers such difficulties that in most cases only arbitrary estimates can be made. »

— Adopted.

« 3° Under these conditions, the results obtained for the allocation of net costs are naturally very approximate and only permit of information being obtained respecting the relative net proceeds of each traffic. »

The President. (In French.) — As a result of the observations which have been put before us to-day, perhaps we might add: « And comparisons to be made between the successive balance sheets. »



Mr. Brisse, Eastern Railway of France. (In French.) — This final wording is apt to lead to an ambiguous meaning. Distinguishing between fast and slow traffic has been avoided, but if we limit ourselves to the statement: each class of traffic, it would be possible to give to the summary a more precise meaning than the one it has, each railway being interested in its own particular class of traffic.

I will give as an example the Eastern Railway on which we have an extremely important traffic. We are able to follow the relative proportions between the estimated net cost and the receipts, and that very accurately. I might even say too accurately, because one is tempted to bring the two elements too closely together and so risk bringing about diversions in opposite directions.

It would be interesting to define precisely the expression « in each class of traffic ».

The President. (In French.) — We said in the heading « between the different categories of traffic ».

Mr. Brisse. (In French.) — It would be better to say « in each of the categories of traffic ».

The President. (In French.) — We could say « in each category of traffic » and we should add « and a figure of comparison between the results obtained during successive years ».

Mr. Henry-Gréard. (In French.) — I agree with the first addition suggested, but wonder if it is really necessary to add the second, having already pointed out that this examination should be made in kind and not generally.

The President. (In French.) — It is my opinion that the additional wording I propose, *viz.*, « in order to make a com-

parison between successive years » eliminates any objection, because the special conditions in which the State railways are worked will remain the same for the various periods between which comparisons are made. If new laws involve increased expenditure, this will be taken into account.

Mr. Payet. (In French.) — The expression which has been introduced is such as satisfies the views of our colleagues. Traffic of the same kind can be dealt with on a State railway at very different rates, and though it appears as if one class of traffic only was being dealt with, the conditions under which it is rated may be such that this traffic is divided into two classes which constitute two different categories.

The President. (In French.) — If they are posted up as the same, it would be difficult to make a valuation. We might say « and a figure for comparison between the results obtained for successive years ».

Mr. Payet. (In French.) — It would be better to say « a statistical figure for comparison. »

The President. (In French.) — Very well, if you agree we will put it « and a statistical figure ». (*Signs of approval.*)

Subject to these conditions therefore we are all agreed.

— The 3<sup>rd</sup> paragraph suggested, altered as above, was then adopted.

« 4° The cost price neither is nor can be on any railway the determining factor in making rates, but it is a useful element in the investigations connected therewith. When such investigations are directed to the development of traffic through a modification in rates, in



considering the questions, the cost price in relation to the traffic actually carried, should not solely be taken into consideration, but the partial cost price from which the expenses independent of the density of the traffic are excluded. »

**Mr. Brisse.** (In French.) — I have a formal observation to make. I should like to point out the difference in character which exists between the two net costs spoken about. The average net cost is of a character that is clearly statistical, whilst the partial net cost which was spoken about afterwards is not quite of the same character, for it is a net cost which is only estimated and not found from experience, so it seems it would be better to finish the sentence by saying « estimated partial net cost from which is excluded expenditure independent of the intensity of the traffic ».

In the first case it relates to something that has been proved, a statistical element. As regards the second case, it cannot be said that it relates to a cost of which we are certain.

**The President.** (In French.) — There is nothing to say against this addition, and it explains better the partial net cost.

— The 4<sup>th</sup> statement thus altered was adopted.

**Mr. Serani.** (In Italian.) — I propose a fifth statement which I have written out during the meeting, and is as follows: « On any particular railway the average cost of transport may be obtained with sufficient accuracy, taking as basis the average cost per axle-kilometre. »

**The President.** (In French.) — In the first part of our final summary we speak of the possibility of applying some method and refer to how the subject is dealt with in Europe and in America.

We might add to that the statement proposed by Mr. Serani.

**Mr. Serani.** (In Italian.) — I should also like to add my statement to the first paragraph of the resolutions, where it is a question of the methods employed for fixing the net cost of transport.

**Mr. Payet.** (In French.) — I should like to point out that we are not sufficiently certain of this point of view to enable us to say definitely that this method of calculating net cost is sufficiently exact, and I prefer to reserve my opinion as regards the application of this method. Before adopting a statement of this kind, it would be interesting to make calculations, and we have asked Mr. Serani to supply us with particulars with a view to testing his method on other railways besides that of the Italian State.

**Mr. Serani.** (In French.) — I agree with Mr. Payet, and I have no motive for insisting that the addition proposed by me should be adopted; we must wait until the results are known of the application of my system of calculating explained in the notes which I have distributed, and which evidently have not been properly examined. It is precisely to arrive at this simple conclusion, namely, the continuation of the study of the net cost of transport by railways, that the proposal I made at the beginning of this meeting was aimed at. By its means we should obtain concrete figures, which if only considered even as a guide, would allow us to compare the results of the various periodic balance sheets of any particular railway from the point of view of the cost of passenger and goods transport. From that a good rule might be deduced giving financial results an administration

might expect. This would be all the better as a recommendation, as by direct methods the distribution of certain expenditure, even of an important nature, between fast and slow traffic, has not been thought possible.

Mr. Brisse. (In French.) — A method

of estimating founded on the number of axle-kilometres may appear correct when it concerns a railway system that is not subjected to changes, but when a railway is liable to suffer important changes, at any time a mistake in estimating during any transitory period might lead to contradictory results.

## DISCUSSION AT THE GENERAL MEETING

Meeting held on 26 April 1922 (afternoon).

Mr. R. DE CORNÈ, HONORARY VICE-PRESIDENT, IN THE CHAIR.

GENERAL SECRETARIES : Mr. J. VERDEYEN; Mr. E. FRANZA; Sir HENRY FOWLER.

ASSISTANT GENERAL SECRETARY : Mr. N. GIOVENE.

Sir Henry Fowler, *general secretary* read the

case, based upon concrete elements submitted by the reporters.

### Report of the 4<sup>th</sup> section.

(See *Daily Journal of the session*, No. 2, p. 12 and No. 4-5, p. 6.)

« Mr. HENRY-GRÉARD (*special reporter*) gave a summary of the three reports sent in by the reporters.

« Mr. SERANI (*Italian State Railways*) explained his method of finding the net cost based on the hypothesis of uniformity of cost per axle-kilometre of express traffic and per axle-kilometre of slow traffic. He requested that a number of railway system should furnish him with particulars in order to verify this method.

« Mr. HENRY-GRÉARD was of opinion that Mr. Serani had not proved that his purely hypothetical method was any better than the process of examination of each

« After a discussion between Mr. PAYET (*French State Railways*) and Mr. SERANI on the details of Mr. SERANI's method, the latter admitted that his, like all other methods, has only a comparative value and does not furnish any absolutely definite results.

« Mr. MEREUTZA (*Roumanian State Railways*) considered that the study of net cost should not be conducted in the same way on the State as on the other railways, and that its application as a basis of rates, particularly on State systems, is quite delusive.

« THE PRESIDENT, having summed up the discussion, and after some remarks by MESSRS. BRISSE (*French Eastern Railway*), MEREUTZA, HENRY-GRÉARD, DUNN (*reporter*), and SERANI, the 4<sup>th</sup> section adopted unanimously the following summary. »



The President. — This is the

Motion.

Final summary.

« 1° The splitting up and allocation of  
« the total expenditure between the various  
« classes of traffic is possible on  
« condition that each subject involving  
« expenditure is independently examined,  
« and if necessary, tests made of concrete  
« examples.

« In America this allocation is obtained  
« by the statistical method which the  
« Interstate Commerce Commission has  
« recently put into operation;

« 2° A proper allocation of capital  
« charges offers such difficulties that in  
« most cases only arbitrary estimates can  
« be made;

« 3° Under these conditions, the results  
« obtained for the allocation of net costs  
« are naturally very approximate and  
« only of value to serve as a guide to  
« roughly apportion to each class of  
« traffic a statistical value of their net  
« earnings;

« 4° Net cost neither is, nor can be, the  
« determining factor for fixing rates on  
« any railway, but a knowledge of it is  
« a useful element in the investigations  
« connected with this subject. When the  
« result of such investigations tend to  
« increase traffic by some alteration made  
« in the rates, it is advisable that the  
« average cost price, which only takes  
« into account traffic actually carried,  
« should not solely be taken into consideration,  
« but the partial cost price  
« from which are excluded expenses independent  
« of the intensity of the  
« traffic. »

— The general meeting ratified this summary.

The President. (In French.) — Mr. Lanino, engineer to the Italian Ministry of Public Works, has suggested the following resolution for acceptance :

*Railway statistics.*

Mr. Lanino, although fully aware of the difficulties of the problem, believes that it is in the interest of all concerned to have as great an uniformity as possible in railway statistics, at least in the bases by means of which comparison may be made between the various plant and work of the railways. The necessity of this was particularly shown in section 2, in dealing with the question of « Electric traction », when the view was expressed that it was desirable that a committee should be formed to deal with the question of standard statistics.

He put forward the following :

« The Congress having moved the interest which has been shown in the  
« question of fundamental standard statistics which would allow of a correct  
« comparison being made, by employing  
« uniform figures, between the results of  
« the various railways, express the view  
« that the International Railway Association should move in the matter and  
« request the Permanent Commission to  
« nominate a special Committee to study  
« the question and take the necessary  
« steps to formulate a definite proposal  
« to be laid before the next Congress. »

I put this proposal to the vote.

— The motion was adopted and will be submitted to the Permanent Commission for examination.

## CUSTOMS EXAMINATION

*Organization to be adopted for the customs examination of luggage, so as to reduce to a minimum the inconvenience to passengers, while safeguarding the interests of the custom-house and of the railway. Establishment of international custom-house stations.*

## Preliminary document.

Report, by MESSRS. JOURDAIN and PRUDENT. (See English edition of the *Bulletin* of November 1921, p. 1801, or separate issue [with red cover] No. 40.)

Special reporter : Mr. PRUDENT. (See English edition of the *Bulletin* of April 1922, p. 691.)

## SECTIONAL DISCUSSION

Meeting held on 26 April 1922 (morning).

Mr. PAUL, PRESIDENT, IN THE CHAIR.

The President. (In French.) — I have already mentioned that Mr. Prudent, the special reporter, has been unable to come to Rome and that Mr. Bonnevey, Chief Engineer of the Paris, Lyons and Mediterranean Railway, has been good enough to act in his place.

I will now call on Mr. Bonnevey to speak.

Mr. Bonnevey. (In French.) — I think it will be well for me to read the special report drawn up by Mr. Prudent and published in the *Bulletin* for April 1922.

I share the opinion expressed by Mr. Prudent, but it appears to me that

paragraph 15 is rather outside the question and that it might be suppressed.

The President. (In French.) — This observation appears to me to be well founded.

Sir Henry Worth Thornton, Great Eastern Railway, Great Britain. (In French.) — In my opinion it is of primary importance that all efforts of the Congress should be directed to the simplification of Customs formalities and examination of passports.

These formalities are carried out at the present time in such a manner as to cause



serious inconvenience to passengers in the pursuit of their business. I think it very desirable that the Congress should draw special attention to these formalities with a view to the gradual reduction to their pre-war simplicity. I think it is also desirable that passengers who run through several countries in one journey, should be exempted from numerous examinations and inspections at different stations.

These formalities which require the passengers to get up sometimes twice in the same night, render nugatory all the efforts made by the Companies with a view to ensuring the comfort of their passengers; real progress will have been made towards the simplification of customs examination, when the examinations at two frontier stations, for example at Oldenzaal in Holland and at Bentheim on the German frontier could be combined in one station instead of divided over two as at present, and when the hand baggage is examined by Customs Officers on the train, I ask that the Congress should express its views on the question of Customs, and on the need for simplifying the present procedure in the manner I have suggested.

**Mr. Brant**, South Eastern & Chatham Railway, Great Britain. (In French.) — The South Eastern & Chatham Railway Company, appreciating the difficulty of checking the examination of passengers luggage before departure, has asked me to propose the deletion of clause *h* : « examination of registered baggage at destination » from the conclusion of the report. I also propose that clause *j* relating to examination of luggage during the journey should be modified and the following paragraph should be adopted : « Passengers luggage, whether hand baggage or registered luggage on all corridor

trains should be examined on the journey between the frontier station and the most convenient arrival station. In the case of non-corridor trains, the stoppage at the frontier stations should be reduced to the minimum required by the needs of the service and the examination of registered luggage, until such time as the examination can be effected in special waggons attached to the trains. Hand baggage should be examined in the carriage. »

It being the object of the Administrations to save the passengers all worry and particularly to save them the expense to which they are put whenever they have to get out of the carriages. I beg that the Section will adopt this proposal.

I propose, moreover, that in order to indemnify the Administrations which, by the introduction of the system of examination on the train, will be put to expense thereby, the Administrations should be entitled to make a slight increase in the cost of through tickets, as is done at present in the case of the examination of baggage on Pullman-car express trains.

**The President.** (In French.) — We are in agreement with regard to trying to facilitate travel for the passengers by avoiding as far as possible the troubles that they may encounter in the course of their journey. We should try to find means for simplifying the customs formalities, so that the stoppages at international frontier stations may be reduced to the absolute minimum. We are unanimous on this point.

With regard to hand baggage, the question appears fairly simple, and the examination is already performed on the train while running, without requiring the passengers to carry their luggage to the examining bench.

With regard to the heavy baggage, apart from examination at the start or on

arrival away from international frontier stations, the method of examining the baggage while the train is running is certainly the best, provided that it can be performed at suitable times, so that the passengers are spared inconvenience. It appears, therefore, that the best arrangement consists in asking that the examination shall be performed during the running time and at hours that do not interrupt the night's rest for the passengers and do not require them to be roused between 11 p. m. and 6 or 7 a. m. To secure this, it will be necessary for the Customs authorities of the various countries to work together under suitable and satisfactory conditions. They should have an adequate staff and it is obviously necessary that the travelling expenses of the staff for enabling it to join the train at a suitable station before the international frontier and to effect the examination while running must be paid to the Customs authorities. It appears to me that the suggestion that Mr. Brant has submitted to the Section is of great interest in this connexion. It is a reasonable thing to require that the passengers should pay a small amount for being spared an inconvenience.

It appears moreover, that if a sum is levied for crossing the frontier and is handed to the Customs, this department will receive an amount sufficient to recompense its staff for working under the altered conditions, provided that the amount so levied is divided amongst this staff. It would, in fact, be a premium for the work thrown upon the customs officials.

I think that, if this idea is followed out, it will be possible to obtain a sufficient amount to pay for fairly long journeys, so that the condition that I have mentioned, that is to say avoiding the exam-

ination of the heavy luggage while running at times that are inconvenient to the passengers, could be realized.

Are we all agreed on representing to the respective States that the best arrangement for sparing the passengers the annoyances that arise in passing the frontiers would consist in performing the examination while running, subject to their paying a reasonable sum, to be handed to the Customs Officers that perform this duty?

It is obvious that this examination can only be performed on corridor trains. This is essential.

Mr. Viglione, Italian State Railways, (In French.) — The introduction of this arrangement would entail an increase in the staff. Consequently, it will be necessary to provide not only for the payment to the existing staff but also for that of the additional staff.

The President. (In French.) — The individual charge need not be very great in order to provide a considerable sum. For example if it were fixed at one franc per head, a train carrying a hundred passengers would give 100 francs which would be sufficient to cover the remuneration of the Customs Officers that carry out the examination.

Mr. Viglione. (In French.) — The wording that we adopt should be such that it cannot raise any objection on the part of the Customs. It would, therefore, be necessary to specify that the charges should pay for the travelling allowances and for any possible increase in the Customs staff.

The President. (In French.) — It is obvious that we should consider a remuneration which would indemnify the Customs against all the expenses incurred



by affording the passengers the facility that we have mentioned.

**Mr. Charron, French Midi Railway.** (In French.) — The railway Companies might share this extra expense, because they would effect a saving in not carrying the baggage from the train to the Customs and back again to the train. They might therefore share a part of the extra expense thrown upon the customs.

**Mr. Viglione.** (In French.) — There will always be some trains, other than through trains that will stop at the frontier station. It will consequently be necessary to maintain an adequate staff at the station. I do not think we can expect to reduce the staff.

**Mr. Charron.** (In French.) — It will also be necessary to consider the question of the working hours, particularly in view of the eight-hour day. It would doubtless be possible, under the proposed system at certain times of the day, to dispense with some of the staff required under the present conditions.

**The President.** (In French.) — These are special cases.

**Mr. Viglione.** (In French.) — We must not go too far.

**The President.** (In French.) — We appear to be in agreement in finding that it would be of advantage to require a charge to be paid on passing the frontier to cover the examination of baggage on corridor trains while running. There is another question however that arises : will the tax pass into the receipts of the railways, and will these pay the Customs for the whole cost of additional staff and for the travelling expenses of the staff, and will the difference between the amount of the charges and this figure

remain in the hands of the Company, or will the charge merely be collected by the Company on behalf of the Customs?

Has the 4<sup>th</sup> section any opinion to record with regard to this?

**Mr. Viglione.** (In French.) — It would be more practical to adopt the method in existence in Switzerland and Italy, by which the railways collect the charge and render account to the Customs.

**The President.** (In French.) — Hence in Switzerland and Italy the railways collect the charge which they receive in full and pay to the Customs the expenses incurred by making the examination on the train. Does this method give rise to objections?

**Mr. Gorjat, Swiss Federal Railways.** (In French.) — Up to the present the Swiss railways have not collected anything, but they make payment to the Customs for the extra expense involved in the examination of heavy baggage on the train. The method suggested by Mr. Viglione appears simple : it is the railway that collects and settles the account with the Customs.

**The President.** (In French.) — The method will be as follows : The railway Administrations will take the total charges and will reimburse the Customs for the expenses which they may incur by performing the examination while the train is running. (*Agreed.*)

— The paragraph is adopted.

With regard to the examination of the baggage on trains that have no corridor communication, has any one any remarks to make on the subject of endeavouring to simplify the examination in those stations in which it is effected?

Are there any railway systems, on the

trains of which the Customs are satisfied with an examination, made in the luggage van, without transfer of the luggage to the examining benches?

Mr. Viglione. (In French.) — In the case of trains without corridor communication, I think that it is to be hoped that joint frontier stations may be arranged.

The President. (In French.) — The following appears to be the question: In each of the stations or in the joint station, what methods are adopted to simplify the examination of the luggage to the greatest possible extent?

I think that, in this case, it will not be possible to spare the passengers the annoyance of being awakened when the train enters an international station at night; but perhaps it would be possible to endeavour to shorten the period for which the train is kept waiting in the station by avoiding the unloading of the heavy luggage to be carried to the examining benches and subsequently reloaded into the van. It appears to me that it should be possible to examine the baggage in the van or in its immediate vicinity.

Mr. Viglione. (In French.) — The class of passengers — emigrants for example — must also be taken into consideration.

The President. (In French.) — We are considering ordinary trains. Emigrants never make very pleasant journeys. It does not make much difference to them if they wait another half-hour in a station.

Mr. Viglione. (In French.) — The Customs is the concern of the Treasury. It is always opposed to the comfort of the passengers.

The President. (In French.) — If we

consider the payment to the Customs Department for the services for which we ask, that is to say the speeding up of the examination in an international station, there is little reason why our views should not be considered. In any case, it appears that in our final summary we ought to show clearly that it is to the interest of the passenger to be saved all annoyance and that the time of waiting in the stations should be shortened. We are trying, actually, to increase the commercial speed of the trains and to reduce the time occupied in making the journeys.

Mr. Viglione. (In French.) — With regard to the examination in an international station, I should not wish to depart from the principle that it would be necessary to pay the Customs for the expenses incurred. Actually the Customs would always be ready to require many things of the railways. In my opinion a charge must be collected to remunerate the staff on account of its having to travel; but, with regard to inspection in the stations, it is the Customs that should try to ensure the comfort of the passengers. I should not desire therefore to consider a supplementary payment on this account to the Customs. It has too great a tendency already to collect charges. (Laughter.)

Mr. Bonnevey. (In French.) — Is the question now one concerning international trains?

The President. (In French.) — It is a question of trains, without corridor communication, on which the heavy luggage cannot be examined while the train is running.

Mr. Bonnevey. (In French.) — Are there still trains of this class that run across the frontiers? (Yes, yes!)



**The President.** (In French.) — It is reasonable to make a distinction between the two types of trains, because, in the case of the passenger who travels in a train without corridor communication, there can be no question of his receiving any special service. He has the annoyance of being awakened if he crosses the frontier during the night and consequently he cannot be asked to pay extra for being disturbed. It is, on the other hand, perfectly logical to demand a payment from passengers who travel by corridor trains, on which the examination can be performed while the train is running. But it does not appear that any difficulty can arise in practice from the making of a distinction between the passenger who travels by corridor trains, paying a charge, and the passenger who travels by an ordinary train, without corridor communication, and has no special charge to pay.

**Mr. Viglione.** (In French.) — There will be difficulties, because the charge should be paid on starting at the time of taking the ticket.

**The President.** (In French.) — Are there any practical difficulties in the way of making the passenger, who is to travel by a corridor train, pay on starting and not making it payable by passengers using trains of the other type?

**Mr. Direz,** French State Railways. (In French.) — The charge might be paid at the same time that the luggage receipt is issued. Passengers having no luggage would not have to pay.

**The President.** (In French.) — This would be right, because the Administration would not be giving him the service.

I think this suggestion is of interest: that the charge is to be payable at the

time of registering the luggage on an international train in the case of passengers travelling in a corridor train.

**Mr. Viglione.** (In French.) — There is one difficulty arising out of this system. Will the departure station be able to perform this function? If not it would be possible to collect the amount on the train at the time that the baggage is examined. It is doubtless easy at the departure station to ascertain the type of train in which the passenger will travel; but it is also possible for the passenger to arrive by a local train which connects with the main line. Can any subordinate be acquainted with all the details of the train service?

**The President.** (In French.) — I do not think that stations on secondary or light railways register baggage to destinations beyond the frontier.

**Mr. Viglione.** (In French.) — Does an employee at a station in Apulia, in Calabria, or in Sicily know what trains a passenger will take in going via Modane? Would he have to make a thorough investigation on this point?

**The President.** (In French.) — Does this employee at the present time register baggage through beyond Modane?

**Mr. Viglione.** (In French.) — Yes, but he does not investigate the trains that will be taken successively by the passenger. Could he look up the time-tables so as to find out the trains on which the passengers would arrive at the frontier? Would this occur on an international train or on a train working internal traffic?

**The President.** (In French.) — This is a practical difficulty.

**Mr. Viglione.** (In French.) — Yes, but this difficulty would be overcome if the

charge were collected at the time that the baggage is being examined on the train.

**Mr. Direz.** (In French.) — It might be possible to collect the amount after the baggage has been registered. The registration ticket would bear the note « charge to be collected » and when the payment had not been made on departure, it would be collected after the examination of the baggage.

**The President.** (In French.) — It is quite possible that, in the greater number of cases, the method suggested by Mr. Direz would be practicable. On most of the large railway systems it would be possible to collect the charge at the time of registering the baggage. The case quoted by Mr. Viglione appears to me rather exceptional. In any event, if the collection of the charge is not effected at the time of registering the baggage, it could be done after examination.

Let us come to a conclusion. We advocate the payment of a charge to cover the cost of service given on corridor trains while running. This will be collected at the moment of registering the baggage, and, in cases where the registration ticket, which the passenger will produce at the time when the baggage is examined, does not bear an entry of the payment of the charge, the amount will be paid at the frontier.

**Mr. Soulez,** Northern Railway of France. (In French.) — I am in favour of the charge, but I should not like the idea that the endeavour to obtain the examination of the baggage at departure has been abandoned. This has not occurred yet, but I should like the question to be left open.

**The President.** (In French.) — The scheme that we have just been investig-

ating appears to me to be of indisputable interest both to the passengers and to the staff.

If the examination of the baggage in an international station relates to baggage carried on a train devoid of corridor communication, the charge will not be collected, but we should ask the Customs to reduce the time of the operations, by proceeding, as far as possible, with the examination of heavy baggage in the van or close to it.

**Mr. Grillo,** South Eastern & Chatham Railway, Great Britain. (In French.) — I would mention that in Sweden special vans have been built for the rapid examination of the baggage. Could not this example be followed?

**The President.** (In French.) — You are alluding to special vans that enable the Customs inspection of the baggage to be effected in the international station without unloading. It would be necessary that these wagons should have sufficient floor space to enable the baggage to be opened in the presence of the passengers and subsequently to be stacked.

**Mr. Grillo.** (In French.) — They are very long wagons.

**Mr. Simon-Thomas,** Netherlands Railways. (In French.) — It appears to me that in many cases, it is not possible to examine the registered heavy luggage in the vans, on account of the small amount of space available, particularly if the vans are fairly full. In Sweden it is necessary to insert a second van in the train.

**The President.** (In French.) — Our method evidently presumes that there will be sufficient space in the van for making the examination. We say, moreover, « if possible ». This assumes that there



will be sufficient space in the van for spreading out the baggage. If special vans enable sufficient space to be afforded for inspection of the baggage without unloading, it can be carried out in this manner. If the van is too full, it is inevitable that baggage must be unloaded. In this case it would be necessary to arrange with the Customs that the baggage should be set down on the platform alongside the wagon and should not pass to the examining room.

Mr. Charles Cooper, London Brighton & South Coast Railway. (In French.) — In London, on arrival the inspection of the baggage is made on the platform, because the trains do not consist of corridor coaches and it is not possible to perform the examination while travelling. Now we have come to an arrangement with the English Customs by which the examination is made on the platform close to the van. The expense is charged to the Company, but the Customs return one half.

The President. (In French.) — This is an example of the second method: unloading the baggage on the platform alongside the van without carrying it to the examining room.

Mr. Viglione. (In French.) — The question is of interest from the point of view of the space to be provided in the international stations. It would require a large amount of installation, such as tables and benches.

The President. (In French.) — It would, perhaps, not be necessary to unload all the baggage, because when a certain portion of it had been examined there would be space left in the van.

This question having been settled, we can pass on to the question of

### *International Stations.*

I think that this question has been raised for sufficient reasons.

Mr. Viglione. (In French.) — Without doubt the single station will be the best solution. There are however cases in which it is not possible for political reasons.

The President. (In French.) — Possibly evolution will lead to the consideration of this solution in the case of all stations that may be built in the future.

Mr. Viglione. (In French.) — Doubtless you are alluding to the new frontiers. From the railway-service aspect, it is evident that the best solution is to have the two Customs Offices in the same station.

Mr. Grillo. (In French.) — Mr. Filippo Genovesi, President of the Italian Electric Railway Company, has made a long report, in which he takes note of all the disadvantages mentioned by Mr. Viglione and arrives at the conclusion that joint international stations should be the general practice.

The President. (In French.) — I think that we shall all be in agreement on the principle that the railways have an obvious interest in the existence of single stations placed on the frontiers themselves, instead of two separate stations arranged on each side of the political boundary. (*Agreement.*)

We shall insist on this point because it is of importance in the case of the international stations yet to be built.

### *Examination at departure.*

The President. (In French.) — In the report of Messrs. Jourdain and Prudent,

it is a question of examination at departure when, in the departure station or in the town which it serves, there is a Customs Office capable of performing this examination.

Mr. Viglione. (In French.) — This examination is of particular interest when there are two frontier stations, because there is the examination on leaving and the examination on entering. This is the case on the Austrian-Italian frontier. Now, at Vienna, the baggage is examined on departure and there is no further examination at the station before the frontier. The baggage can be registered direct to destination to a large number of stations, such as those in Rome, Florence, etc., where there is an Italian Customs Office. This gives great facilities to the passengers.

Mr. Mereutza, Roumanian State Railways. (In French.) — The Customs examination of the baggage at departure from a foreign country would be advisable in the interest of the convenience of the passengers. But in this case the Customs, in order to make the examination, should have officers in the foreign countries, and it would be necessary to repay the expenses which would be incurred on this account.

In consequence of the state of the exchanges, I do not think that the time has arrived for incurring heavy expenses of this nature because the passenger traffic rate would be affected by it.

Mr. Viglione. (In French.) — In Vienna, the service is free. The international office at the station proceeds with the examination, provided that the baggage has been left with it before 4 p. m.

Mr. Mereutza. (In French.) — It is

very desirable that the baggage should be accepted and lead-sealed at departure and taken out of Customs on payment of duty on arrival in the towns in which the Customs have an office.

The President. (In French.) — Any simplification of the service at the frontier is of value to the passengers in sparing them disturbance. Consequently, would it not be advisable to consider the collection of a charge which would allow the Customs Administration to arrange examination offices either on departure or on arrival? In many towns Customs Offices already exist for goods; but it might happen that if the Customs Officers were required to perform the examination of the baggage, their number would have to be increased.

Mr. Viglione. (In French.) — The baggage is sent to the Customs Office by the railway Administration and it is from that Office that the passengers must withdraw it.

The collection of a small charge might be considered which would be received by the Customs on arrival.

Baron Krayenhoff, *principal secretary*. (In French.) — I do not see the necessity for giving the Customs Officers remuneration over and above their salary. I think that it is very difficult to charge a surtax to the passengers.

The President. (In French.) — The object of the surtax is not that of making a direct payment to the Customs Officer who carries out the examination. We said just now that the railways would keep the amount received from this charge and would pay to the Customs Administration the amount of the expense resulting from the increase in the staff or its travelling time, in compensation for



the facilities given to the public. Thus the same principle can be applied equally to examination on departure and on arrival, this checking being performed with the view to sparing the passengers all annoyance in passing the frontier. Actually by paying the charge the passengers would pay for the elimination of this annoyance.

**Mr. Viglione.** (In French.) — There is not only the annoyance, but also the expense, because the passengers have to pay the porters to carry their baggage from the van to the examination room.

**The President.** (In French.) — Actually the troubles due to the examination are many.

**Mr. Simon-Thomas.** (In French.) — Would not the paying of the charge into an account be a disadvantage to the railway Administrations?

**The President.** (In French.) — We can examine this possibility without much fear. We are only too glad to perform a large amount of clerical work if we can receive large sums.

**Mr. Viglione.** (In French.) — The difficulty would not be great. The Customs would send in their account. The Administrations would settle matters between them through the intermediary of the international controlling office.

**Mr. Gorjat.** (In French.) — On examining the baggage in an office inside the country the Customs are not put to extra expense. It is the railway Administration that has to transfer the baggage to the Customs Office. I do not see, therefore, that it is necessary to consider the collection of a charge for the Customs service.

Moreover, is it intended to collect a supplementary charge from the passengers, no matter how small, as a payment for an extra operation performed? I think that it would be necessary to give up this idea, because examinations made in the interior of the country do not represent a considerable expense to the railway Administrations.

**The President.** (In French.) — In the summary we will state that these examinations are of interest and that it is desirable that they should be extended as far as possible and without requiring the collection of an additional charge as payment for the service given to the passengers. (*Agreed.*)

We now come to the following question.

#### *Luggage held over.*

Have the delegates any suggestions to put forward with a view to improving the present conditions?

**Mr. Viglione.** (In French.) — It should be noted that, when baggage is held over, it is generally the fault of the passengers. The baggage is carried to a Customs Office inside the country provided that the necessary telegraphic expenses are paid. There will always be passengers who are unaware that Customs exist and that their luggage must be examined and who will consequently have the luggage held over. They have consequently only themselves to blame if they find any trouble.

**The President.** (In French.) — I think that the question of luggage held over should not keep us long. The function of the railway Administrations is to take the necessary steps for sending the packages as quickly as possible to their destination.

There remains a last question : is it of advantage that we should refer to the wishes already expressed by the International Passport Commission?

It is not our business to examine the question of passports. But, as an International Conference has dealt with it and as the report of Mr. Prudent mentions the conclusions which were adopted, and which he proposes we should support, we must consider the matter.

**Mr. Viglione.** (In French.) — I am of the opinion that we should support these conclusions.

**Baron Krayenhoff.** (In French.) — I have read in the papers that the question of passports has been discussed at the Genoa Conference. It was there said that it was absolutely necessary that the State Departments should take measures as soon as possible for smoothing out the existing difficulties. I think that this question is one for the Governments.

**The President.** (In French.) — I do not think it is our business to ask for the suppression of the passports, the existence of which is due to political considerations. That we should support the wishes set forth on the subject of Customs formalities appears to me to have no disadvantage, but it is not for us to enter into the domain of politics which is quite foreign to the question of railway management. (*Agreement.*)

We shall, therefore, not take into the summary of the discussion the conclusions of the International Passport Conference. We shall find that the views set forth by the 4<sup>th</sup> Section on the subject of the Customs visit are entirely in agreement with the spirit of the conclusions set forth on the same subject by the International Passport Conference. (*Further Agreement.*)

**Mr. Simon-Thomas.** (In French.) — On page 10 of the Report <sup>(1)</sup> I find :

This combination in a single station of the customs of two countries constitutes an important improvement for the handling of the goods which necessitated an intervention of the customs on going out of a country, and on coming into the next country, thus involving a considerable loss of time.

I do not know whether it is absolutely certain that the Customs service for goods will be so greatly improved.

For the goods service we have full wagons and the goods and documents accompanying the package are examined by the Customs of the two countries one after the other.

**Mr. Viglione.** (In French.) — When the station is divided the train is stopped and shunting operations are performed for bringing the goods to the Customs for leaving the country. This involves a considerable waste of time. In the first station a shunting operation is necessary for bringing the wagon to the Customs. At Ventimiglia there are sheds for leaving and sheds for entering the country, arranged next to each other on the same track. The goods are brought into one of these sheds. After the French Customs have made the examination for leaving the country the locomotive hauls the wagon about 50 yards further. It is examined and put into the train leaving for Italy. This is the method adopted in a modern station.

If there are stations which are not yet equipped for ensuring the performance of the service in this manner, an attempt must be made towards doing this wherever possible and considering a type of

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(1) See *Bulletin of the International Railway Association*, November 1921, p. 1808



frontier station that meets the requirements. I am certain that well-arranged international stations greatly improve the railway service and the Customs Service.

In many cases the Customs Officers ascertain rapidly that there are no objects subject to duty, so that the examination is performed quickly.

In some cases the examination on leaving is carried out at the same time as that of entering the other country.

**Mr. Simon-Thomas.** (In French.) — Is the train examined at the same platform?

**Mr. Viglione.** (In French.) — Yes, there are two adjacent sheds: one for entering and the other for leaving.

**The President.** (In French.) — It follows from these explanations that the concentration of the successive operations in the same station actually facilitates the work of the railway Administrations and of the Customs in a manner that does not exist when the two stations are separate.

**Mr. Viglione.** (In French.) — Moreover, an agreement may be arranged between the two Customs Administrations.

**The President.** (In French.) — I think therefore, that we can restrict ourselves to this finding: « When new international stations are to be built, it is desirable that the operations should be combined in a single station in all cases in which it is practically possible. » (*Agreed.*)

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## DISCUSSION AT THE GENERAL MEETING

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Meeting held on 28 April 1922 (morning).

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**Mr. R. DE CORNÉ,** HONORARY VICE-PRESIDENT, IN THE CHAIR.

GENERAL SECRETARIES: **Mr. J. VERDEYEN;** **Mr. E. FRANZA;** **Sir Henry FOWLER.**

ASSISTANT GENERAL SECRETARY: **Mr. N. GIOVENE**

**Sir Henry Fowler,** *general secretary,* read the

### Report of the 4<sup>th</sup> section.

(See *Daily Journal of the session*, No. 8, p. 10.)

« **Mr. BONNEVAY** (*P. L. M. Algerian Railways*) gave a summary of the various reports dealing with this subject.

« **Sir Henry W. THORNTON,** **K. B. E.** (*Great Eastern Railway*) stated in a com-

munication that it is of the utmost importance the Congress should direct its efforts towards the simplification of the customs formalities and passport visa, and insist on reducing these as far as possible to their pre-war simplicity. It is certainly of the greatest importance that through travellers, crossing various territories, should be allowed to pass through the different controls of luggage and passports at the different frontier stations, and that all this work be carried out at one joint station only.

« Mr. BRANT (*South Eastern & Chatham Railway*) gave a report in which he stated that he would like an alteration in the clause relating to the examination of luggage in the course of the journey. He proposed the adoption of a resolution that : « Passenger luggage, both handbaggage and registered luggage should be examined in the train whenever they are composed of intercommunication corridor stock. That the examination be carried out during the journey from the frontier stations to the next convenient stopping place. The stoppage at the frontier should be reduced to the minimum necessary for railway purposes and for the examination of registered luggage, when such cannot be carried out in the luggage van. »

« The aim of the railways should be to do away with the inconvenience and expense caused to passengers by having to alight from trains, and, if necessary, a surtax might be made for the examination of registered luggage as is already done in the « trains de luxe ».

« After interchange of views, the PRESIDENT stated that both reports show that the wishes of the English railways correspond to those of the section itself. It seems necessary that the railways should press their various governments to arrange for greater simplification and consequently more facilities with regard to through travellers, by having the customs and passport examination made in the course of the journey in the train. If this causes extra cost to the customs, an extra charge might be made to travellers by the railways, which could be passed on, if necessary, to the customs officers.

« Mr. VIGLIONE (*Italian State*) agreed with the idea of a surtax, but he thought

that this ought to cover, not only the extra costs of the customs officers, but also the expense to the railways which would be caused by it.

« Mr. CHARRON (*French Midi Railway*) considered that the railways should pay a part of the extra expense because it is possible that they might economise through things being simpler at the frontier stations, where they would require a smaller staff.

« Mr. VIGLIONE did not think that it would enable the railways to have a smaller staff at frontier stations, as the local trains would in any case compel them to have a certain number of employees at these stations.

« After having heard the remarks of Mr. VIGLIONE and Mr. GORJAT (*Swiss Federal Railways*), the section was of opinion that it is desirable to charge the passengers extra for their through registered luggage in case the examination is made during the course of the journey. This means of course that an extra charge is only to be made when the luggage is carried in through-corridor trains. The railways should agree to an arrangement by which they would collect a surtax from the passengers and pay the customs authorities the extra cost they had incurred through having to examine the luggage on the journey.

« The collection of this surtax and the difficulties which it would cause were discussed. After an argument between Messrs. PAUL (*president*), VIGLIONE, DIREZ (*French State Railway*) and GORJAT, the section agreed that this surtax ought only to be charged on luggage carried on corridor trains, and that the charge should be made at the starting stations at the time the luggage is registered. The regis-



tration ticket should show that it had been collected. If it was not done at the time, passengers would be obliged to pay when the Customs' examination is made in the luggage van.

« Mr. SOULEZ (*Northern Railway of France*) would like to have the luggage examination made as far as possible in the train during the journey, and agreed with the principle of charging extra for these Customs facilities. He was of opinion that the section should also reconsider the question in special cases of the examination of luggage at departure stations, and that the subject should not be considered as settled.

« Mr. GRILLO (*South Eastern & Chatham*) and Mr. SIMON-THOMAS (*Netherlands Railways*) pointed out the great convenience found in Sweden by the use of specially arranged luggage vans, which greatly facilitates the Customs' examination.

« As regards the Customs Officers' visit in non-corridor trains, the PRESIDENT asked if it might not be possible to examine the luggage either in the van or even on the platform, by unloading in the latter case, a portion of it to the extent necessary to enable the surplus to be examined in the van itself.

« Mr. COOPER (*London, Brighton & South Coast Railway*) said that in England they have already arranged for the examination to take place at the platform on which the train comes alongside.

« This considerably simplifies the carrying and loading up of luggage, and is much appreciated by the passengers, and also reduces the work of the Customs Officers.

« After an exchange of views, this suggestion, which ought to cause less delay to trains in the frontier station, was agreed to by the section.

« Discussing then the question of joint frontier stations, and after having heard the remarks of Messrs. VIGLIONE and PAUL, and a summary of the report of Mr. GENOVESI (*Italian Government*), the section agreed to the necessity of having joint international stations, and where these do not yet exist, to build them instead of having two stations at each frontier.

« Referring to the question raised by Mr. SOULEZ, Mr. VIGLIONE gave particulars regarding the examination of luggage at the departure station at Vienna, destined for Italy. At this station all such luggage is examined by the Austrian Customs and forwarded sealed.

« He preferred the examination to be made before departure at all those towns where this can be arranged, especially in those cases where there are two distinct railway stations at the frontier.

« Mr. MEREUTZA (*Roumanian State Railways*) considered that in order to encourage the examination to be made in the interior of the country, it would be advisable to defray the expenses of the Customs authorities.

« Messrs. VIGLIONE and KRAYENHOFF (*principal secretary*) were not of this opinion, and thought that neither railways nor travellers should pay extra to the customs officers for their work, these being paid by their governments. Moreover, part of the facilities would also benefit the goods traffic, and in this case it would be right to demand a surtax also from the consigners of goods.

« Mr. SIMON-THOMAS pointed out that charging the surtax will cause extra work for the clerks who have to register the luggage, and this consequently will also cause a delay in registration. As regards goods traffic, consignees have to go to the

agents to get their goods, where they have to pay all the charges at the same time. Mr. GORJAT stated that in Switzerland the Customs receive no payment for visits made in the interior of the country, because the railways hand over the articles to the Customs house itself, where the passengers call for them. In this way all the handling is done by the railway. He suggested therefore to abolish the idea of a surtax, and at the same time encourage that of examining the luggage in the interior of the countries.

« The section agreed with Mr. Gorjat's proposal.

« After having briefly considered, on account of its small importance, the question of forwarding luggage kept back at frontier stations, the section decided, after having heard Messrs. VIGLIONE and KRAYENHOFF, to agree with the conclusion arrived at by the so called Passport Conference held at Paris 24 October 1920 for all matters concerning Customs formalities.

« Mr. SIMON-THOMAS did not agree that the establishment of joint international stations at transit points would be of such an advantage to railway companies as the reporters imagine. Mr. VIGLIONE replied by showing the advantages that would be obtained in forming the trains, simplification in shunting and rapid visit of the customs for both countries interested, and which could only be arrived at by means of a joint station.

« The concentration of successive operations relating to Customs on one platform and having to provide one staff for the purpose in a single station are certainly

incontestable advantages. Mr. Simon-Thomas convinced by the arguments advanced by Mr. Viglione agreed with him. »

The President. — This is the

#### Final summary.

« In order to facilitate the customs formalities with international trains and to reduce the time these trains have to stop at the frontier stations, it is recommended that :

« For trains fitted with inter-circulation facilities the examination of the luggage should be made on the journey, and for other trains at the joint international station, either in the luggage van if possible, or otherwise in its proximity;

« In return for the facilities thus given to passengers in international trains with through communication, the collection by the railway company of a surtax or special rate should be authorised, the railway company being held responsible for any supplementary costs that may arise during the journey as regards examinations by the customs authorities;

« The examination of luggage in the interior of the country, either for departure or on arrival should be developed as far as it is possible to do so.

« It is desirable, in order to facilitate the work of examination, both by the railway companies and the customs, to establish one joint station at the frontier in preference to two. »

— The general meeting ratified this summary.

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## QUESTION XV

### INTERCHANGE OF ROLLING STOCK

*Interchange of goods rolling stock (freight cars), and penalty charges in case of delay in the return of that stock :*

- a) *Rules to be adopted in the relations between the railways themselves;*
- b) *Rules to be adopted in the relations between the railways and the consignors and consignees.*

#### Preliminary documents.

1<sup>st</sup> report (America), by Mr. C. W. CRAWFORD. (See English edition of the *Bulletin* of September 1921, p. 1275, or separate issue [with red cover] No. 31.)

2<sup>nd</sup> report (all countries, except America), by Mr. CHARRON. (See English edi-

tion of the *Bulletin* of March 1922, p. 479, or separate issue [with red cover] No. 61.)

Special reporter : Mr. CHARRON. (See English edition of the *Bulletin* of April 1922, p. 695.)

## SECTIONAL DISCUSSION

(4<sup>th</sup> AND 5<sup>th</sup> SECTIONS COMBINED).

Meeting held on 24 April 1922 (morning).

Mr. PAUL, PRESIDENT OF THE 4<sup>th</sup> SECTION, IN THE CHAIR.

The President. (In French.). — I call upon Mr. Charron, the special reporter who has been entrusted with the making of the summary of the reports that have been sent in on this question.

Mr. Charron (In French) read the summary which was published in the April 1922 number of the *Bulletin*.

The President. (In French.). — The

« résumé » proposed actually sums up the work done by Messrs. Crawford and Charron. According to the report which has just been read there are actually two questions under consideration. The first relates to the arrangements for interchange and location of rolling stock amongst two or more railway systems. I will note, in passing, the tendency towards the simplification and unifica-

tion of the various methods of interchanging wagons handed over from one system to another. The second question deals with the relationship between the railway administrations and their clients the consignors and consignees.

We will commence by discussing the first question, relating to the arrangements for interchange and location of wagons between two or more railway systems. We will even divide this question into three sections so as to differentiate between the arrangements relating to interchange proper; the rules regarding the repairs of damage; finally, the third portion, of relatively small importance, that of the loose fittings belonging to the wagons.

I will open the discussion on the question of the agreements relating to interchange properly so-called. Two methods of location have been shown in the reports, the location of wagons individually, wagon by wagon, and the location obtained, not by checking each wagon, but by making a common stock of the rolling stock over several railway systems.

It appears that the question of individual checking by wagon is appreciably losing ground and that there is an increasing tendency to adopt the method of interchange and location which admits of obtaining a balance for the number of wagons interchanged amongst various railway systems.

**Mr. Viglione, Italian State Railways.** (In French.) — Is it not necessary to make a distinction between Foreign Administrations and the Administrations of a particular country? I can thoroughly understand that it would be useful to treat all the rolling stock inside a country in one lot, but would it be possible to do this when it is a question of the interchange of the rolling stock used in inter-

national service? A regulation has been proposed in Italy; but can the principle of dealing with the whole of the wagons in one lot, within the frontier of a single country, be applied to the international service?

**The President.** (In French.) — Up to the present they have not been dealt with in one lot.

**Mr. Viglione.** (In French.) — Something has been done with regard to the interchange of rolling stock between Austria-Hungary and Italy.

**The President.** (In French.) — Did this application of a common stock arrangement apply to a large number of wagons?

**Mr. Viglione.** (In French.) — It was limited to the common rolling stock of the Austro-Hungarian ex-Monarchy. This ceased when the rolling stock was divided amongst the different claimants.

**The President.** (In French.) — This has been tried with a large quantity of rolling stock in the United States.

**Mr. Charron.** (In French.) — As the Reporter for America has said, this measure can only be applied if there is an impartial central office having the necessary power to ensure that its orders are carried out and that the rights of property and the needs of the traffic are properly respected.

**Mr. Viglione.** (In French.) — By the interchange of rolling stock between the claimants of the old Danubian Monarchy a certain reduction has been obtained in the distance run empty by rolling stock, but it is not possible to regulate this on international service; it would in any case present great difficulty and I do not



think that the application of the system to international transport is possible.

**Mr. Brisse, Eastern Railway of France.** (In French.) — The question before us is of very old standing. The difficulties that have been found in it, and solved, result from the divergence between the interests involved. We are going through a period when a great change is in progress in the prevailing ideas which have for long past formed the basic principles on which the regulations relating to the interchange of goods wagons were founded. The origin of this transformation lies in the fact that the railway Administrations have taken account of their greater interest, which consists in utilizing the rolling stock to its maximum output. Thus we find that in Great Britain common use of rolling stock is taking the place of the previous individual use, with a view to avoiding the difficulties of all the old arrangements which were based on the idea of property and of the necessity for protecting this property, which had the effect of causing partial use of the rolling stock and making the distance run empty too great. The English state that the distance run empty has become almost negligible since the new system was put into force. A figure of 15 % is mentioned. This would certainly be a very important source of profit.

To what extent can an operation of this kind be extended, in the interior of one country and as far as international relationship, to the relationship of the railway Administrations of one country with those of another country? This is the consideration that has led to the remarks that have been put before you by Mr. Viglione.

There will still for some time be appreciable differences between the arran-

gements that may be adopted in the interior of a single country, arrangements which it appears will have to be based more and more on the notion of the best utilization of the rolling stock, the notion of individual property in rolling stock taking second place to that of the profit to be obtained from this property.

With regard to international interchange, there is one consideration of fact that must be taken into account : it is that of the magnitude of the interchanges. The quantity of interchange from country to country is generally much less than the quantity of interchanges in the interior of any particular country.

The interchanges between the Administrations in any particular country have in recent times taken a considerable step forward if compared with those of my first years in administrative office; there was then in France an Eastern Railway System on which the figures showed that the interchanges of stock were very small. So long as this kept within the limits of a few thousand wagons, the system of the individual checking of wagons could continue; but at the present time the interchanges amount to hundreds of thousands of wagons per week between the French railway systems.

In America the question of common use of wagons came under consideration at a very early date. But the delicate matter is to reconcile common use with the notion of property. Given the divergence of interest of the various Administrations concerned, it may be feared, that if the arrangements made are rather too liberal, disputes will arise in the application of the notions of property in common which are gradually being concluded in most places. Hence arose the idea of the necessity of a regulating body. In fact we are led to appoint associations with funds at their disposal and subject

to rules for determining the limitations of their functions. I think that the almost inevitable result will be the appointment of a central regulating body which will act as a clearing house for wear according to ownership.

All these general considerations support the conclusions of the two reporters in favour of the advisability of maintaining the question of interchange of rolling stock on the Agenda of the next session of the Congress. I think that we shall still continue under the system of individual checking for a long time, but a system improved from the point of view of simplification; here, however, a question arises. All previous arrangements were of a fiscal character and had for object the protection of ownership of the various Administrations; perhaps we have not yet reached the point at which the idea of ownership, having lost its individual character, has definitely assumed a collective character?

Mr. Viglione. (In French.) — On the French railway systems there are common stocks for a large Company and small lines.

In France, as in England, there are very powerful Companies; in Italy there are only the State railways which represent 10 000 miles and, outside that, there are nothing but small railway systems which do not amount to appreciably more than 340 miles with a total amount of rolling stock limited to the quantity of local traffic, whereas the combining into a common stock depends on the number of wagons that each company possesses, otherwise a want of equilibrium will be produced.

The President. (In French.) — If each Administration has the necessary rolling stock for its traffic that is sufficient.

Mr. Viglione. (In French.) — The

small companies have not got this. Have you the same conditions in France as to arrangements between the large and the small Companies?

Mr. Charron, *special reporter*. (In French.) — Each Company has an arrangement with the small railway systems connected with it.

The President. (In French.) — Gentlemen, I announce the presence of members of the 5<sup>th</sup> section, who are joining us to-day.

Mr. F. Level, French Light Railways. (In French.) — I thank the 4<sup>th</sup> section for having kindly invited our co-operation in its work.

Gentlemen, I should like to draw your attention to a point in the report that is of special interest to us. It is the question of agreements made between some large French Companies with the light or secondary railway Companies, agreements with regard to which the report of Mr. Charron states :

That the rolling stock of the small company is in some measure mixed with that of the large Company, which credits the Company owning the rolling stock with a daily location number equal to the number of wagons put into service by the latter, and debits it each day with a number of days equal to that of the wagons that are out on the light railway. This method of checking has the advantage of great simplicity, because it avoids tracing the wagons of the light railway through the whole distance run on the main line of railway, and also of requiring their return to the railway system of the owners and of keeping account of the time the wagons remained on the other lines with a view to the ultimate application of a demurrage charge.

It is certain that this system is extremely simple and I should be almost tempt-



ed to say that it is somewhat advantageous to the light railways. We think that this system should be recommended and we should regret that no mention were made of it in the work of the section.

We think that this system, so far as light railways are concerned, may approach the system of simplification adopted by the large railway systems in so far as it reduces the accountancy organization to the strict minimum, while allowing the maximum output to be obtained from the whole of the rolling stock.

Doubtless another system might be less favourable to the small railway systems, but is it not necessary to consider whether, if there is any favour, it is justified by many considerations? I do not need to recall the services rendered by the secondary railways, constituted by the lines included in the Great Railway System, in order that they may gather a large traffic while free from organizing a service that would weigh much more heavily on them than on us.

There is one thing which must be considered: it is the maintenance of the rolling stock. You all know that from this point of view there is not reciprocity between the large and small railway systems.

When the small railway system sends its rolling stock over the large system, this rolling stock runs much more risk than does that sent by the large railway system over the small system. Actually on the large system the trains are heavier and the wagons suffer greater risk during shunting, in such manner that our rolling stock is returned somewhat seriously damaged. We have accepted the system which puts on the owning railway system the onus of bearing the damage from the moment its rolling stock has been returned in running order; in many cases

we have made a bad bargain and this has been unfortunate.

We do not ask that any remedy should be found for this evil, but we think that the 4<sup>th</sup> section could, perhaps, recommend in its summary the system that Mr. Charron has indicated in so clear a manner. I should wish that, in the summary that you will present, you will make allusion to the light railways, and, if you think you can do so, that you will recommend the very simple system which I mentioned just now and which works admirably in France.

The President. (In French.) — I thank Mr. Level for his very interesting remarks. The system regarding which Mr. Charron has said a few words in his report consists in the common use of rolling stock between large and small railway systems. The small railway system makes a contribution, to the local rolling stock of the large system, of the number of wagons which it has; it is credited each day and the large railway is debited each day with the number of wagons that are handed over to it. The balance, if it is to the credit, is in favour of the small system and requires to be paid for. Compensation is made in form of payment by the railway system which has a debit. This is a very simple proceeding both for the small and the large railway systems. It only involves a simplified account-keeping. It is this that justifies the remarks of Mr. Level; the section could make a recommendation on these lines.

Mr. Viglione. (In French.) — This is what is done in Italy.

The President. (In French.) — But these are individual arrangements.

Mr. Biraghi, Italian local Section. (In French.) — With such a contract, even

though it gives advantages to the small lines, still leaves them under bad conditions. By accepting these conditions for interchange we have not considered the question of the free periods for the operations of loading and unloading, and, as on the small railway system we have much shorter running distances, the loading and unloading constitute a charge that represents a much higher percentage. It must be taken into consideration that on the small railway system we must allow forty-eight hours for loading and an equal time for unloading of the wagons.

I ask that the section take this point into consideration.

The President. (In French.) — The observations that have been put before us lead the 4<sup>th</sup> and 5<sup>th</sup> sections combined to take into consideration the proposal made by Mr. Level. The summary may show that, for secondary railway systems, this system of common use of rolling stock is of interest. We shall not make this question the subject of a resolution but due note will be taken of it.

I think that we shall get nearer to more general agreements, which will not only group the rolling stock of the railway systems of a country together, but even those of different countries.

Mr. Brisse. (In French.) — Following the observations that have just been put forward, I ask permission to return to a point in the conclusions of Mr. Crawford which has not been retained by the special reporter, but which had attracted my attention. It is under a) of the conclusions of Mr. Crawford: « Each railway should supply its share of the rolling stock in proportion to the amount of traffic leaving its lines. » The English text: « Each railway should provide its proper proportion of the equipment commensu-

rate with the volume of traffic originated » is less definite than the French.

Worded as it is in the French text this conclusion would have provoked a strong protest on my part. It is not, as has often been said, the business of the forwarding railway system to supply the rolling stock for the whole distance which must be covered by the goods that are dispatched on this railway system. If this principle were applied the small lines would be subjected to conditions which would be quite unfair. The true method in such case is that which our English colleagues have christened, when applied to passenger stock, by the name of « pooling ». There is no pooling for the rolling stock used for goods traffic. With regard to express traffic this contribution, according to the class of railway system that supplies its rolling stock for transport, that is continued beyond its own lines, should be limited in principle to that involved in the operations peculiar to the traffic ensured by this system on its own lines. I think that, when a true estimate of the value of the supplies that are involved in interchange is required, it is always necessary to return to this view.

The profit which the large Company derives from the small one must also be taken into consideration. A light railway brings traffic to the large railway system and it is quite natural that the large system should take account of the position from the point of view of the cost of the rolling stock. It is no longer a question of interchange; it is a question of the general relationship of traffic and interests between the two railway systems. If the large railway system considers it advantageous to give some special facilities to the connecting line, this should be done in the form of concessions, but it might be done in many other ways.



Mr. Level has raised the question of the maintenance of the rolling stock. He has drawn attention to the fact that the rolling stock of a small line runs less risk on that line than on a main line of railway. What may happen is that the rolling stock of the small line suffers in the latter case because it has not been so well maintained.

I think that the conclusion of Mr. Level may be as follows. In the case of a light railway which brings considerable traffic to a large railway system, a more equitable solution would be found by the large railway system putting a certain quantity of rolling stock, corresponding to the traffic of the small line, at its disposition for use on its own system. This rolling stock might be used in common. There would be a sort of allowance by the large railway system of rolling stock which would be dealt with by location. This would be an advantage in every respect, and particularly with regard to simplicity.

Mr. Charron. (In French.) — The Midi Railway Company of France, in its relation with the railways of the Landes, has gone very far in the direction indicated by Mr. Brisse. This is what the report says on this subject : « ... This last railway system (that of the Landes) which does not itself possess any rolling stock for slow goods traffic, is supplied with this by the Midi Railway, in consideration of a daily rate, which is very low for the first three days, more than double this for the four following days, and nearly five-fold from the eighth day onwards. »

It is therefore the large railway system that has to maintain the rolling stock.

The President. (In French.) — It is a system that the Midi Company of

France have adopted for loaning rolling stock to a small connecting railway system. The payment includes the general charges.

The other system that Mr. Level has mentioned, is that of the contribution to the common stock by the small railway system of an amount of rolling stock approximately proportional to the volume of its traffic, account being taken of the traffic derived from this small railway system.

Mr. F. Level. (In French.) — I think that the proposal of Mr. Brisse is of such character as to lead to reconciling the two solutions that have been put forward.

In the system adopted on the lines of the Landes, the large railway system allots a definite amount of rolling stock to the small railway system, but the charges for interchange of rolling stock continue in this case, and this is the item which it is desired to avoid as far as possible.

The report tells us that a very small charge is made for the three first days, but that this charge is doubled for the four following days and that it becomes five-fold from the eighth day onwards.

The arrangement mentioned by Mr. Brisse appears to me a less severe solution. The large railway system would say to the small Company : You have only a little rolling stock or none at all; you require so many wagons; we will place this number of wagons at your disposal on hire under conditions which we will discuss.

I am entirely in favour of this system for new lines that are to be built; but when it is a question of lines equipped with rolling stock that satisfy normally their needs, and which is of a type identical with that of the big railway systems, as is generally the case in practice, the

solution proposed by Mr. Brisse cannot be applied. It is then that the system which I mentioned just now may be introduced.

Two solutions can, in my opinion, be recommended, the one for lines that are to be constructed, and the other for lines that are already equipped with rolling stock corresponding to their particular needs.

**Mr. Direz, French State Railways.** (In French.) — On the French State Railways we have been led to take special measures, because the greater number of the light railways connected to our railway system have rolling stock that cannot be made up in our trains at all. We have concluded an agreement with these small companies that is intermediate between the two solutions. It has been agreed that the wagons belonging to the local companies shall only be used within a radius of 31 miles. We thus give the small railway system the means of using all its rolling stock outside its internal transport, for the numerous cases of traffic running over short distances on our lines, but, on the other hand, we supply it with all the empty wagons which it may require for loads destined for long distances on our own railway system.

We thus avoid the disadvantages of running rolling stock, that is generally not as strong as our own, in very heavy trains.

**The President.** (In French.) — Do not these restrictions have the effect of reducing the commercial efficiency of the rolling stock?

**Mr. Direz.** (In French.) — I do not think so, and it is certainly of advantage to the local Companies not to have to incur heavy expenditure, particularly in strengthening the couplings, which would

generally be required, for the acceptance without restriction of their rolling stock on our lines.

**Mr. Biraghi.** (In French.) — I must make one remark relating to the agreements made by the French Midi Railway Company with small local light railways. I know that there is a tendency on the part of the State Railways to arrive at similar conclusions. I will remark that we are trying to find a general formula which will ensure good commercial efficiency for the rolling stock. This formula, which the French Midi Railway has already applied, and which the Italian State Railways would like to apply, leads us to the opposite conclusion. We have now entered a period when the traffic is reduced, and consequently it will be understood that the large railway systems that have a surplus of rolling stock would be glad to lease it to the local lines. But it is to be hoped that this period will soon come to an end and that the large railways will then be short of rolling stock. I fear that if the large railway systems supply rolling stock to the local lines at a rate dependent on location, the light railways, at that time, will not have at their disposal sufficient rolling stock, if the periods of their greatest demand should happen to coincide with the periods of maximum traffic on the large railway system to which they are connected.

**Mr. F. Level.** (In French.) — It is very evident that when the rolling stock of the small railway system has not the same couplings as that of the large railway system, the question cannot arise, and all that we have said here only relates to the case where the rolling stock can be freely exchanged between large and small railway systems. I am not in favour of the principle of the 31 miles range.



This is, in fact, an organizing of the distance run empty if this is accepted, and it can only reduce the commercial efficiency of the rolling stock. It is, moreover, opposed to the principle that I mentioned just now, note of which, I ask, shall be made in the summary.

**The President.** (In French.) — The French State Railways have limited the distance run by wagons belonging to small Companies, on the main line system, to 31 miles.

**Mr. Direz.** (In French.) — The wagons of our line are at present fitted with couplings the strength of which differs appreciably; we have strengthened and we are continuing to strengthen the couplings of the wagons of the old type in order to facilitate the making up of trains of very heavy tonnage; the wagons of the local Companies, that are fitted with relatively weak couplings, can run in our trains under the same conditions as our own wagons fitted with the same class of coupling, that is to say they must be placed far enough from the head of the train to ensure that the coupling shall not be subjected to a tractive effort greater than a definitely fixed maximum. These are very troublesome and inconvenient restrictions for the making up of the train and we find that, notwithstanding the application of these rules, the wagons of some small railway systems of weaker construction than our own, often suffer damage either in the train or in the large shunting yards. It is for this reason that it would appear to me advantageous to limit the running of such wagons over main lines as far as possible.

**A Delegate.** (In French.) — The 31 miles limit appears to me impossible to accept; it is opposed to the efficient use of the rolling stock. On the other

hand when the wagons of a small Company run long distances, heavy expense is incurred.

**The President.** (In French.) — The question does not arise if the rolling stock forms a common pool.

**A Delegate.** (In French.) — I am speaking of the 31 miles limit.

**The President.** (In French.) — On the French State Railways has there been any pooling with individual arrangements?

**Mr. Direz.** (In French.) — It is individual regulation that is always adopted and I do not see how pooling could be worked otherwise.

**The President.** (In French.) — The wagons on our light railways run over the whole of the French Railway system, just as well as the wagons of the large railway systems.

**Mr. Direz.** (In French.) — When these wagons have arrived at a destination very far from their starting point it must be very difficult to obtain freight for the return journey.

**The President.** (In French.) — They are taken back on to the Midi Railway System. There is no disadvantage in doing this.

**Mr. Direz.** (In French.) — These wagons are away from their own system for what may be a considerable time and their maintenance becomes difficult.

**The President.** (In French.) — These wagons that belong to the small railway system connecting to the Midi Railway are returned to the Midi Railway system for maintenance.

**Mr. Gufflet,** Midi Railway of France. (In French.) — The question of the dis-

tance of 31 miles is only of secondary importance and is quite outside the desire expressed by the 5<sup>th</sup> section in favour of obtaining a simplification of accounting by pooling of rolling stock with the small railway systems. I think that we should keep to this point of view.

Mr. G. Level, French Economic Railways. (In French.) — I do not think that all goods wagons of the large railway systems are in such wonderfully good condition, they are more often out of order than those of the light railway Companies.

The President. (In French.) — This discussion has shown all the points that can be considered relating to the evolution which appears to be in progress. Mr. Brisse said just now that in England the total rolling stock has fallen to a much lower figure than that existing formerly, before pooling had been introduced. Would it not be possible for one of our English colleagues to give us some information on this point?

Mr. Direz. (In French.) — I cannot give definite information as to what is happening in England, but I think that I can give some interesting particulars of experiments made in France.

In 1909 the State Railway system bought the Western Company of France, and, for a period of more than two years after the combine, it was found necessary to keep the rolling stock of the two systems separate; for one reason because the users of the old State Railway System were afraid that they would find the rolling stock of this system absorbed by the lines which formed the Western Railway Company of France, and, on the other hand, for the purpose of facilitating the maintenance of two classes of rolling stock that were appreciably different.

We thus kept going for two years two large streams of empty rolling stock running in opposite directions.

The day when we were able to pool the rolling stock we were able to abolish these two streams of empty rolling stock; at the same time we were able to allow the neighbouring Companies to send to any given point the rolling stock of any one of the pooled railway systems, and I am certain that the pooling of the rolling stock, thus effected on a railway system comprising 5 600 miles, has reduced the empty distance run by rolling stock in a proportion comparable to that which has been given by the English reporter.

A second example of the elimination of the empty running has been supplied by what happened between all the French railway system during the war.

The accounts for interchange have been suspended and the rolling stock has been treated as though the whole of it had been pooled; speaking generally the streams of traffic caused the loaded wagons to flow towards the battle front.

We were obliged to distribute the empty rolling stock, thus concentrated in a small definitely defined area, amongst all the dispatching railway systems pro rata to the magnitude of their dispatching; the French Midi Railway system for example dispatched an average of 200 loaded wagons per day, the P. L. M. 400, the State 2 000, and the Paris-Orleans 400, or in all 3 000. The stream of empty rolling stock returning from the front was, consequently, distributed thus :

2/30, to the Midi;

4/30, to the Paris-Lyons-Mediterranean;

20/30, to the State Railways;

4/30, to the Paris-Orleans.

This division was revised each week



according to the count made during the preceding week at the junctions of the railway systems. We thus were enabled to reduce the stream of empties to a minimum and to have none of these running in the opposite direction, apart from a few damaged wagons which it was necessary to return to the railway system that owned them.

At the present time we have returned to the former arrangement and the exchange of empty wagons between railway systems has once more become very great.

I will quote an example :

The State Railway system delivers about 1 200 loaded wagons per week less to the neighbouring lines than it receives from them.

In order to maintain constant the total available rolling stock on its lines, the railway system must return to its neighbours 1 200 empty trucks each week and these systems should not send back empties to them (except a few wagons requiring repairs).

Now statistics show that actually the State returns about 12 000 empties to its neighbours, who themselves send it about 10 800 : the difference is actually 1 200 wagons, but there is a double current of 10 800 empty wagons per week in each direction which might be avoided by the pooling of the rolling stock.

I should state also that it is true that, actually, a proper investigation should take account not only of the total rolling stock exchanged, but of that of each category (covered goods-wagons, open wagons and flat trucks); it is nevertheless certain that streams of empty rolling stock of a particular type (of covered goods-wagons in particular) run in both directions to the extremities of the railway systems, and it is not unlikely, in my opinion, that the pooling of the rolling

stock of the various railway systems would enable the movement of empty rolling stock to be reduced to a very great extent.

**The President.** (In French.) — It cannot be doubted that the pooling of the rolling stock gives rise to better commercial efficiency.

**Mr. Brisse.** (In French.) — I should like to draw a distinction. It may be that the pooling as practised by the English railways has the effect of better utilizing to the utmost the carrying capacity available during the life of the wagon and of avoiding empty running. I should not, however, wish to draw the conclusion from this that it necessarily increases the commercial efficiency of the rolling stock. This efficiency, is measured by the number of ton-kilometres of carriage effected for each ton of capacity. There are cases in which the increase of the distance run empty might, on the other hand, have the effect of increasing the commercial efficiency. What is of interest, is that, owing to the common use of wagons — when it is not too limited, as is the case under some contracts — the time-capacity of the wagons is utilized, but it does not follow that maximum transport utilization is obtained.

**The President.** (In French.) — It may be concluded that the commercial efficiency has been increased.

**Mr. Brisse.** (In French.) — This is what has been said, regarding the interchange agreements that exist in England, by the English reporter on question XI :

The effect upon the working of this restriction on the use of stock may be imagined when it is stated upon a reliable estimate that in 1913 railway-owned wagons travelled empty for 30 % of the distance they were hauled, and 70 %

loaded, whereas if it had been possible to load the wagons freely in any direction the 30 % would doubtless have been reduced to something like 5 %. As a matter of fact, the only empty haulage we anticipate to do now is in connection with the payment of empty wagons in the process of balancing under the pooling arrangement or, on the other hand, in the movement of empty wagons from stations where they unload more wagons than they load in order to feed stations where they load more wagons than they receive full. That arrangement, naturally, is inevitable in cases where the traffic is « Unbalanced ».

**The President.** (In French.) — It appears from the discussion that there is a question of the necessity of a regulating body acting between the various railway systems that pool their rolling stock. Is everyone of the opinion that such a body has become necessary for maintaining equilibrium between the various parties to an agreement for interchange of rolling stock? I think that we are all in agreement on this point.

Finally the question has been put as to whether we should ask that the question should be kept on the Agenda for the next Congress; that is the question of agreements on interchange of rolling stock. I think that we are here also in agreement. Given that evolution still tends towards progress, it will be interesting to see how this will appear when we hold our next Meeting. We will therefore ask the Permanent Commission of the Association to keep the question of agreements with regard to rolling stock on the Agenda for the next session of the Congress.

The first question also involves the conditions relating to the repair of damage occurring on the railway system using the wagons. The Reporter has

given the formula accepted in many countries. Have any members observations to make?

I will remind you that three formulæ have been put forward on this subject: the American formula which gives a detailed list of the items of damage chargeable to the railway system owning the wagons and those due to the railway system using the wagons; the second formula, in use by the Scandinavian railways, is based on the total cost of the repairs; and finally the third formula in that adopted by the International R. I. V. regulation. The leading idea is always that of simplifying the written documents which form the basis of the agreement. In the arrangement the railway system owing the wagon performs the repair and it is only when the wagon is so badly damaged that it cannot run, that the railway system on which the wagon is located is entrusted with the complete repair. In any other case it is the owning railway system that performs the repair.

**Mr. Viglione.** (In French.) — I think that the third formula is the simpler.

**The President.** (In French.) — This formula is the simpler and has advantages over the others.

**Mr. Brisse.** (In French.) — This simplicity may be accepted subject to the reservation of a sufficient latitude in reciprocity.

**The President.** (In French.) — We will now pass on to the question of the loose fittings, which is less important. If no one desires to speak on this third portion of the first question we will adjourn the discussion at this point and continue to-morrow with the examination of the second portion of question XV.



Meeting held on 25 April 1922 (morning).

Mr. PAUL, PRESIDENT OF THE 4<sup>th</sup> SECTION, IN THE CHAIR.

The President. (In French.) — I will now call upon Mr. Zutter to read the summary of the proceedings at yesterday's meeting.

Mr. Zutter, *secretary*, read the summary.

Mr. Soulez, Northern Railway Company of France. (In French.) — I should like to return to the question and to express the desire that a railway system should be able to obtain, when it desires, the return of its rolling stock. It may happen that a railway system which under normal conditions exports material may find itself short of rolling stock by the very fact of the balance between incomings and outgoings. It is, therefore, necessary that this railway system should be in the position to obtain the return of its rolling stock.

Mr. Charron, *special reporter*. (In French.) — The agreement between the French Railway Companies states that : « When, over the whole of a period of eight consecutive days, the number of actual vehicle-units of any particular category found to be on the lines of one of the participating railway systems is less by 10 % of the number of vehicle units credited to it, it is authorized to depart from the restriction, imposed in clause 2 of chapter I, relating to the utilization of wagons of the other railway systems of the same category, and it has the right to require that measures should be taken to restore rolling stock to it. »

A point which leaves something to be desired is the question, that was investigated yesterday, of a higher authority

capable of taking action so as to ensure the application of this measure.

Mr. Soulez. (In French.) — Consequently an indemnity is given in money.

Mr. Charron. (In French.) — The Spanish agreement provides for a similar measure.

Mr. Soulez. (In French.) — Of course a railway system which becomes a creditor should be able to recover the actual rolling stock of which it is in need for its traffic.

Mr. Charron. (In French.) — These measures are only of interest under the condition that it is certain that they will be carried out.

Mr. Brisse. (In French.) — Individual interests also can be safeguarded by the action of a similar formula.

The President. (In French.) — In previous agreements it has been endeavoured to give fair compensation to the creditor railway system by providing a sufficiently heavy penalty when its rolling stocks is not returned. It would be necessary to find a compensating figure.

A Delegate. (In French.) — History shows that this has not been found.

Mr. Charron. (In French.) — The interesting feature is that when a railway system exports more than it imports it requires to be able to make up the number of wagons representing the difference.

Mr. Direz. (In French.) — In the example quoted it is not always sufficient

to ensure the return of wagons to the dispatching railway system; it would sometimes be necessary for these to be supplied in the first instance by the railway systems for which the wagons are destined; otherwise a serious shortage may occur. We had a characteristic example of this on the State Railway system in 1913: we had had an exceptionally heavy export of apples amounting to about 20 000 wagons per month; thrown on our own resources alone we were in a very difficult position. This confirms the statement just made by Mr. Brisse on the necessity of a higher authority for distribution.

Mr. Soulez. (In French.) — We might say that attention is called to the necessity for providing penalties in order to allow the dispatching railway system to obtain the necessary rolling stock.

Mr. Brisse. (In French.) — This observation relates to a one-sided difficulty, but when it is desired to examine the question equitably, one always arrives at the idea of the necessary sharing by each in the supply of the rolling stock involved in the current of traffic which is established between Administrations and to the extent that this current is of interest to each of these Administrations. In the case of a well-established flow of traffic between two Administrations, the supplies of wagons made by each will be placed on an equitable basis, when the share of each of the two Administrations in the vehicles interchanged for this stream of traffic is balanced in the same proportion as their respective shares in the traffic in question.

Mr. Charron. (In French.) — There is one point in the summary which appears to answer this question :

In certain of these agreements the

principle of penalties being applied only at the request of the delivering company has been adopted. Many have drawn nearer, more or less, to the system of « Common-user »; others have endeavoured to correct the difficulties of the latter system by placing the working of rolling stock under the sole charge of a central office invested with the necessary powers to enforce the execution of its orders.

Mr. Direz. (In French.) — According to the report of Mr. Charron, this authority for the distributing of wagons is in existence in some countries and appears to work well. It would be useful to say that it would be well to collect information on its working. For my part, I think that it is impossible to hope that the payment of the cost of ascertaining the position of stock can be an effective method of distribution between neighbouring railway systems: either the cost is small and each railway system has a tendency to use the rolling stock of its neighbours during the heavy traffic period, or the cost is high and the railway systems have an extra tendency to make profits by reducing their rolling stock at certain periods; this causes empty running of rolling stock which costs a great deal to the whole of the railway systems of a country.

The President. (In French.) — The penalty clause would only take effect when the railway system suffering from deficiency of stock would ask for an allowance of wagons.

Mr. Soulez. (In French.) — We cannot consider that this solution would cause satisfactory working, but it would be of interest to show that the dispatching railway might demand and should obtain the return of its rolling stock.



**Mr. Brisse.** (In French.) — I would remark that international agreements have intervened in the exchange of goods, but they have carefully avoided this difficulty, and they have not made any endeavour to overcome it.

These agreements take proper account of the general undertaking, by the railway system receiving the goods, to continue the execution of the carriage contract made by the railway system dispatching the goods, and to accept interchangeably the wagons that contain them provided that they conform to certain specified conditions. They have, on the other hand, avoided stating whether the supply of the wagons, in which the goods, that have been dispatched for international traffic, are contained, should be the business of the one or of the other of the interested parties.

**The President.** (In French.) — We will now go on to the second part of question XV which deals with the relations between the railway Administrations and their clients. From the report that Mr. Charron has made to us it follows that the rules that regulate these relationships vary greatly in different countries. As far as the time allowed for loading and unloading free of charges is concerned, the great difference of practice followed in the various countries would be capable of improvement.

We will try to find as liberal a formula as possible that will ensure the greatest efficiency of rolling stock, which is the end towards which we are working. Has any delegate observations to make or interesting particulars to supply on this first point?

**Mr. Mereutza,** Roumanian State Railways. (In French.) — In our country the time allowed for unloading is six hours, counted from the moment of handing

over the advice. Above six hours a charge is made. The wagons that remain out of use cause trouble to the working of the line and we have asked the Government to make a decree authorizing the railways to discharge wagons on their own initiative after the third day and to put the load into store. We allow three days to the consignees to effect the unloading themselves. If they have not unloaded after the lapse of this time we unload the goods ourselves.

We have calculated that a wagon brings us in from 350 to 450 lei per day. But in order to meet the great shortage of wagons we have to reckon a much higher figure for loss in order that the wagons may be released more rapidly. There is, therefore, a free delay of six hours and then a demurrage charge is applied up to the third day, and finally we take over the wagon ourselves and put it into use.

**Mr. Charron.** (In French.) — Do these six hours only include hours when the stations are open?

**Mr. Mereutza.** (In French.) — Yes, only hours during the time the stations are open.

**Mr. Charron.** (In French.) — We did that during the war.

**Mr. Mereutza.** (In French.) — It is an exceptional measure applied on account of the great shortage of wagons, but even before the war, the allowance for unloading was always six hours; after this delay a demurrage charge is made.

**Mr. Soulez.** (In French.) — On the system of the Northern Railway of France before the war the greater part of the goods, carried as complete wagon loads, were subject to the clause requiring loading and unloading to be effected within six hours. The actual traffic only

allows this clause to be operated to a smaller extent and consequently there is a loss of a very large number of wagon-days. It would, I think, be of interest to investigate the possibility of returning more closely to the performance of the operations within the reduced period of six hours.

Mr. Viglione. (In French.) — We apply this six-hour rule in the ports.

The President. (In French.) — The report shows us that in order to clear the wagons more rapidly a premium for unloading has been allowed by some railway systems. It does not appear to me that this system has given the results that were expected of it.

Mr. Brisse. (In French.) — The system of premiums on unloading has the disadvantage that, in order to obtain a partial result, it is necessary to pay the premium to all those who, without this, might have acted spontaneously.

I think that results can be obtained by other measures, by a rather tighter control of operations, by the station police and by the method in which the service is organised.

At the time of the Armistice in the stations on the Eastern Railway of France system 60 % of the wagons put at the disposal of consignees in the morning were unloaded with difficulty. At present the figure reaches an average of 80 % and, in some districts, there are weeks in which it attains 90 %. This large figure for unloading effected on the same day is only obtained by means of the control exercised and of a rather special organization for the sending of the advice notes. By taking steps a little beforehand results can be obtained which are as great as those that would arise from bonuses on unloading.

The President. (In French.) — I think that actually, in this very important question of clearing rolling stock, the system of control proposed by Mr. Brisse, in which the Company has the right to unload on its own initiative, is the system that we should recommend. I should be glad of any remarks that may be made on the subject of this question.

Mr. Brisse. (In French.) — I should add that the results obtained in the stations are much better than those that are obtained on private sidings. We have gained something on the private sidings by pressing the owners, but we have found that the number of wagons that remain on these branches is always much greater than that of the daily movement. It is on the private sidings of large manufacturers that unloading is performed with the least rapidity.

Mr. Viglione. (In French.) — In Italy we give premiums to the officials in order to effect unloading more rapidly.

Mr. Mereutza. (In French.) — In the case of wagons intended for private sidings the arrangements are the same as for wagons to be discharged actually in the station, that is to say with six hours, allowed, starting from the moment when the wagon is put on the siding and counting up till the time when it is returned to the station. After this delay demurrage is charged calculated at per hour of delay.

The President. (In French.) — The same question can be put with regard to the relationship between the railway and those of its clients that have private sidings.

Mr. Soulez. (In French.) — I wish also to draw attention to the interest that exists in some cases in proportioning the

number of trucks received by a private siding to the capacity of the siding and to the means for loading peculiar to this siding. This is what we do in a large number of cases.

Mr. Brisse. (In French.) — We have been led to consider the charging of demurrage when the wagons are detained in the station.

Mr. Soulez. (In French.) — This is why it is sometimes necessary to have recourse to the intervention of the controlling body which prepares, when necessary, a report showing the amount of rolling stock held up by certain consignees.

From this statement, it is then possible to reduce or even to suppress for some period of time the dispatch of wagons to the works that have too many.

Mr. Brisse. (In French.) — When the goods sent accumulate for a few days, the tendency is to blame the railway for not having properly arranged the deliveries. We have tried, and we have been able in some cases, to ensure acceptance of contracts by which we have definitely required that if the distribution of the orders for dispatch were not well arranged, and if they involve the standing on our tracks on arrival, of loaded wagons which the private siding could not receive, heavy penalties would be inflicted proportionate to the time the wagons were kept standing on our tracks.

The President. (In French.) — What action do you take against the owners of private sidings?

Mr. Brisse. (In French.) — We subject them to demurrage charges.

Mr. Viglione. (In French.) — In Italy it has been required that the sidings should have two tracks, the one for the

arrival and the other for the return of the wagons: when the wagons are not withdrawn from the sidings, we inflict a fine just as we do on the private owners who do not unload their wagons.

The President. (In French.) — And you find that this method is effective?

Mr. Viglione. (In French.) — Yes, it gives us the means of getting the wagons on to the siding irrespective of the desire of the owner of the siding, who is thus compelled to respect the terms of delivery arranged in the contract.

Mr. Soulez. (In French.) — I should mention a system which gives excellent results: it is that of collaboration between the railway company and the owner of the siding. Each summer we have a very variable traffic arising from the carriage of beetroot. The pulling up of the beetroot takes three weeks, then the period during which it is carried is two months and a half. It is necessary that, each day, the sugar manufacturer should receive a sufficient quantity of beetroot, but he must not receive too much. Towards the months of July and August, at the time when the manufacturer on the private siding knows the quantities of beetroot that he ought to receive, we arrange a plan for transport and we put a number of wagons at the disposal of the manufacturer. The manufacturer thus has the certainty of obtaining the number of wagons that he requires and of not having too many. We have a distributor who gets into touch with the sugar manufacturer every morning and informs him: such a forwarding centre is very full; such other centre is short. We thus obtain a good result.

Mr. Viglione. (In French.) — We do the same thing in Italy.



Mr. Zutter, *secretary*. (In French.) — And we also do the same in Switzerland.

Mr. Brisse. (In French.) — With regard to the supplies of coal and coke, the situation on the private sidings of manufacturers is unfortunately not so favourable because under the present conditions the coal market is very irregular and the traffic is very unequal.

The President. (In French.) — It remains for us to look into another question, that of the private wagon. During the war we had a large number of foreign wagons apart from wagons the introduction of which into service was justified by special traffic, tank-wagons and coal wagons for example. There is in each country a large number of private wagons and it is probable that wagons of this kind that cross the frontier are also very numerous. I do not know whether much attention has been given to this question of private international wagons; the report only just touches on the question.

Mr. Charron, *special reporter*. (In French.) — In the R. I. V. Regulation there is a whole paragraph relating to the technical rules concerning tank-wagons belonging to the railway Administrations and private wagons and a second paragraph containing special regulations applicable to private wagons. I have shown that the conclusions in certain clauses that appear in the international regulations are not identical with those that govern the service of the same wagons in the different countries.

We have in France a rates book (No. 129), a chapter in which determines the conditions of this service. This regulation has been adopted by different countries, but there is not absolute uniformity, particularly from the point of view of the tickets to be fixed on the

wagons and the conditions of loading; either to the requirement or the prohibition of loading the tanks full. There are a series of points on which it appears essential and possible to obtain uniformity; it is not practical that when a wagon enters one country from another country it should be subject to requirements that did not exist in its own country.

The President. (In French.) — Uniformity would be very desirable. It is difficult to understand why, when a wagon crosses a frontier, the conditions of the ticket should not be the same.

Mr. Brisse. (In French.) — This subject would require considering from the point of view that the regulations relating to commercial conditions are special to each country.

The President. (In French.) — Not only relating to the technical conditions but also the conditions of transport. No international agreement states how a paraffin tank-wagon should be loaded.

Mr. Brisse. (In French.) — This is a technical question.

Mr. Charron. (In French.) — On the subject of the conditions of use by the Administrations, I have found fairly large differences between various countries. If the regulation of a country allows it to use a tank-wagon belonging to a private owner on its return journey and the same does not apply to one of the other countries to be run through there is difficulty at the frontier. The conditions should be unified.

The question of greasing the wagons is also not regulated in the same manner.

Mr. Brisse. (In French.) — Particularly on wagons intended for special purposes.

**Mr. Viglione.** (In French.) — With regard to technical conditions relating to privately owned wagons, I would mention that, before the war, we persuaded private owners to subject all schemes to our technical services and we required that every privately owned wagon should be fitted with a brake. We have confirmed these conditions since the war. Thus, a wagon running into another country, can be made up in any train; it is not necessary for it to be taken out on the way because it is not fitted with adequate brakes. We require, therefore, that each privately owned wagon should have a brake.

**The President.** (In French.) — What we might say would only apply to wagons used for special services. We have no actual interest in encouraging the use of private owned wagons.

**Mr. Charron.** (In French.) — Steps should rather be taken to reduce them. This is the object which is being followed, particularly in England.

**The President.** (In French.) — These observations appear to justify the maintenance of the question relating to privately owned wagons on the Agenda of the next Congress.

**Mr. Viglione.** (In French.) — If the other countries made the requirement that privately owned wagons should be fitted with brakes a great difficulty would be removed that stands in the way of the international interchange of privately-owned wagons; we are frequently unable to send these over our own lines, having heavy gradients, because they are not fitted with brakes.

**Mr. Charron.** (In French.) — The question of brakes on privately owned wagons is very complex. The private owners ask to have as few brakes as possible, because this is an extra item of ex-

pense for them; the railway systems also do not care for the brakes because they add to the dead weight to be moved. The Italian solution is the only one that can be supported.

**Mr. Brisse.** (In French.) — The reasoning of the owners of privately-owned wagons is very simple. They say to us : you cannot subject us to more strict conditions than those to which you subject yourselves. You have not got screw-down brakes on all your wagons and you cannot, therefore, require that all our wagons should be fitted with screwdown brakes.

**Mr. Viglione.** (In French.) — We have answered this objection by stating that we do not ask that brakes shall be fitted on all the wagons, but only on those wagons that are used for international traffic.

**Mr. Brisse.** (In French.) — A restrictive arrangement of this kind would be more easily accepted by the owners and the individual builders if it were only applied to privately owned wagons intended for international traffic.

**The President.** (In French.) — We can conclude in this manner: It is necessary to draw attention to the necessity for using, in international traffic, only those privately-owned wagons that are fitted with brakes.

**Mr. Charron.** (In French.) — The regulation provides that this should be looked into within three years from its being put into force, that is about 1925.

**Mr. Brisse.** (In French.) — The framers of the regulation had the great wisdom of foreseeing that they were not drawing it in its final form and that, as they were drawing up something rather new, it was wise to fix a fairly short period on which to judge of its working.

Mr. Zutter, *secretary*. (In French.) — Switzerland has solved the question by only accepting in its yards wagons that are fitted with brakes. We think that a privately-owned wagon that could only run on our railway system would be of no use.

The President (In French.) — One question remains for examination, it is that of the payment to the owner of a privately-owned wagon of an allowance for the use of his wagon in place of one belonging to the Company.

Mr. Charron. (In French.) — I think there is nothing more to be said than has already been stated in the Report. The customs are very varied: either the indemnity is paid or a rate is used that is fixed on more favourable bases than the rate for other consignees. There is no uniformity in this matter.

Mr. Mereutza. (In French.) — All our large petroleum Companies require to have tank-wagons which they build themselves and which we allow in our yards. We have agreements with the owners and, according to custom, a privately-owned wagon becomes the property of the Railway Company after twenty-five years.

The other wagons have been allowed to run on our lines during a term of three to four years. No special reduction in rate is allowed for goods sent in these wagons.

Mr. Brisse. (In French.) — In the case of the carriage of heavy goods in private wagons, we have a regulation allowing a bonus such that the profit derived by the owner from the private wagon bears a relation to the tonnage carried. When it is a question of large consignments of minerals or fuel, the

consignors use their privately-owned wagons when the carriage is effected under conditions that ensure the best efficiency of these wagons. On the other hand they ask the railways to supply vehicles when it is a question of consignments for which the efficiency of the wagons would no longer prove so suitable. This is an appreciable disadvantage, and when a special type of wagon is involved, the indirect effects may make themselves felt to a serious extent.

The President. (In French.) — It results from the haulage to be effected in proportion to the tonnage.

Mr. Brisse. (In French.) — The individual who uses his own rolling-stock always pays less; but he makes his own selection and it is when the goods to be carried give a lower efficiency in tonnage carried in a given time that he asks the railway to supply rolling-stock. The railway, under these circumstances, does not always make a good bargain.

Mr. Viglione. (In French.) — It might be possible to decide the goods that could be carried on privately-owned wagons.

The President. (In French.) — On this question of the use and utilization of privately-owned wagons there are interesting considerations to be examined.

Mr. Viglione. (In French.) — We have worked out a regulation for the interchange of privately-owned wagons and we desire to submit it to the examination of the Administrations that belong to the R. I. V.

The President. (In French.) — I think, Gentlemen, that the question has now been thoroughly discussed and that we can conclude our work for to-day.



# DISCUSSION AT THE GENERAL MEETING

Meeting held on 27 April 1922 (afternoon).

Mr. R. DE CORNÉ, HONORARY VICE-PRESIDENT, IN THE CHAIR.

GENERAL SECRETARIES : Mr. J. VERDEYEN ; Mr. E. FRANZA ; Sir HENRY FOWLER.

ASSISTANT GENERAL SECRETARY : Mr. N. GIOVENE.

Sir Henry Fowler, *general secretary*, read the

Joint report of the 4<sup>th</sup> and 5<sup>th</sup> sections.

(See *Daily Journal of the session*, No. 7, p. 11 and No. 8, p. 12.)

« Mr. CHARRON (*special reporter*) gave a summary of the reports received.

« Mr. VIGLIONE (*Italian State*) was of opinion that the system of pooling international rolling stock would cause great difficulties and the system R. I. V. which proposes an individual settlement for each wagon is preferable.

« Mr. BRISSE (*French Eastern*) pointed out that formerly the ownership of wagons was considered by the companies to be of greater importance than the inconvenience caused by returning the said rolling stock uselessly empty.

« At the present time railways have a tendency to reverse this and sacrifice the idea of ownership to that of reducing the running of empty stock in their interior traffic.

« As regards international traffic in which the amount of interchanged rolling stock is relatively smaller, it would seem that the time has not yet come when the idea of ownership can be given second place.

« Referring to the system of general pooling, he preferred the constitution of central distributing organisations.

« Mr. F. LEVEL (*French Light Railways*) referring to light railways, spoke in favour of the French system which consists in combining to a certain extent the stock of the large and adjoining secondary companies and crediting the owning railway with a daily hiring account equalling the number of wagons put into service by the latter and debiting it each day with a number of days equal to that of the wagons then running on its lines, a method which has the advantage of great simplicity.

« Mr. LEVEL desired that this should be recommended by the sections.

« Mr. BIRAGHI (*Italian local section*) supported Mr. Level's proposal.

« Mr. BRISSE disagreed with one of the conclusions in report No. 1, which requires that each railway company should furnish its share of stock in proportion to the volume of traffic leaving its lines. According to him, this supply should be limited to the traffic as far as their own lines are concerned. As regards secondary lines, he considered that the placing of rolling stock at their disposal by the larger companies according to the requi-

rements of the smaller lines is preferable to a system of pooling.

« Mr. F. LEVEL pointed out the necessity of simplifying as much as possible interchange accounts. He allowed that a certain amount of latitude should be given to newly established secondary railways, or those which have not sufficient stock for their own requirements.

« Mr. DIREZ (*French State*) stated that the « Chemin de fer de l'Etat français » found that private companies as a rule have insufficient rolling stock, and that for this reason they limit its circulation to a radius of 34 miles from the joint station.

« Mr. F. LEVEL objected to the latter system, which he considered gave an opportunity of increasing the mileage of empty stock.

« Messrs. GUFFLET (*French Midi*) and G. LEVEL (*French Light Railways*) upheld the principle of pooling the rolling stock, and agreed with the observations put forward by Mr. F. Level.

« Mr. DIREZ gave particulars of the system put into operation when the French Etat and Ouest Railways amalgamated and which lasted for two years.

« Experience proved that from the point of view of upkeep, as well as that of journeys made with empty stock, the pooling system was far the best.

« After a discussion between Mr. BRISSE and Mr. VIGLIONE, the president, Mr. PAUL, proposed to refer the question of settlement of the interchange of rolling stock to the next Congress.

« As regards payment of costs for damage, the section considered it advisable to settle this in accordance with the R.I.V. rates as being the simplest, and already

adopted by the French and Italian railways.

« At the suggestion of Mr. SOULEZ (*French Northern*), and after a discussion in which Messrs. CHARRON, DIREZ, BRISSE and MEREUTZA (*Roumanian State*) took part, the sections considered it necessary to make such regulations so that railways which send their wagons away may *get back the kind* they require for their own traffic as soon as possible, as the compensation they would receive would not cover the inconvenience they would be put to in not being able to utilise the wagons themselves.

« Mr. MEREUTZA then gave particulars concerning the charges made in Roumania for delays in the return of freight wagons, the Government having made special arrangements for this to be done as soon as possible.

« Mr. VIGLIONE pointed out that during or since the war similar regulations have been made by all the European governments, but they can only be considered of a temporary nature.

« Mr. SOULEZ considered it of the first importance to find a general means to rapidly liberate the rolling stock.

« Mr. BRISSE thought that in order to get the best results, a very complete control should be made at the stations as regards consigners and consignees and also in seeing that the advice notes are forwarded expeditiously. The control system is better than that of giving bonuses for unloading. The French Eastern, which is very careful in seeing that the rolling stock is not kept idle, has obtained very good results from this method.

« Mr. VIGLIONE stated that in Italy bonuses are given to the men who unload the wagons at a certain rate.

« Proceeding to the question of delivering or collecting wagons on private sidings, Messrs. SOULEZ and BRISSE gave particulars of the means adopted in France to enforce their rapid return.

« In particular cases, as for instance when the beetroot is gathered in, the railway companies, rather than leave the sugar manufacturers to their own initiative, place at their disposal special wagons and a competent official to take charge of the running arrangements.

« Mr. VIGLIONE also said that one of the means in operation in Italy for enforcing the rapid return of rolling stock was, in addition to charging the usual penalties for delay, to completely stop all delivery of further wagons. They also expect private firms to put down sufficient siding accommodation to accelerate as far as possible the return of the stock.

« Examining the question of private owners' wagons, and after hearing the discussion between Messrs. CHARRON, BRISSE, PAUL and MEREUTZA, the sections concluded that it was desirable to issue uniform regulations for this stock on the R. I. V. basis.

« As regard this, Mr. VIGLIONE informed the sections that in Italy they are considering regulations which will to some extent complete those of the R. I. V. as far as the private owners' freight wagons are concerned. This scheme will be duly submitted, perhaps within a year, to the foreign administrations adhering to the R. I. V. convention.

« Some of the speakers pointed out the necessity of having brakes fitted to private owners' wagons to enable them to run freely with international traffic, in which traffic only those wagons should be allowed which are fitted with screw brakes.

« This regulation has already been adopted by certain railways for the admittance of private owners' wagons to run with their rolling stock.

« Mr. MEREUTZA mentioned an arrangement peculiar to Roumania where private owners' wagons that have been in use for more than twenty-five years become the property of the Government.

« The sections examined the various ways for remunerating the services rendered by the owners of private wagons to railways. They agreed that remuneration depends on local conditions, and that it does not seem possible to give any general rules on the subject.

The President. — This is the

#### Final summary.

« A. — With regard to the relations of the administrations between themselves :

« a) Since the last discussion on this subject at the Congress of 1892, new suggestions have been agreed to so as to make a better use of the rolling stock, and in certain cases, to simplify the settling of the interchange accounts, especially abolishing the charge for mileage and imposing a fine for wagons that are delayed in their return. Certain of these conventions have adopted the principle of applying penalties only at the request of the delivering administration. Many others have more or less adopted the pooling system, whilst some have tried to overcome the inconveniences of the latter by placing the running of its stock under the control of a central office with the necessary powers to enforce its orders.

« The principle on which these new



« regulations are based are rational, but  
« some of them among which are the  
« most important, are of recent applica-  
« tion and it will be some years before  
« their practical value can be proved.

« As regards more particularly the in-  
« terchange between the big railways and  
« those of local interest, a new type of  
« agreement has recently been put into  
« operation which comprises a type of  
« pooling of the stock and a method of  
« adjusting the accounts having the ad-  
« vantage of great simplicity. The small  
« line is daily credited with a number of  
« days hire equal to the number of its  
« wagons it has put in service, and is  
« debited with the number of days equal  
« to that of the wagons running on the  
« lines. This system appears to be parti-  
« cularly recommendable.

« *B.* — As regards relations between  
« railway companies and consigners or  
« consignees :

« *a)* The considerable differences be-  
« tween one country and another as re-  
« gards loss of time in loading and un-  
« loading wagons, proves that in some  
« countries they might make a better use  
« of the rolling stock, thus giving more  
« room at their stations, and at the same  
« time favour the interests of the cus-  
« tomers of those railways.

« *b)* The system of charging an in-  
« creasing percentage every day in case  
« of loss of time due to delay in loading  
« and unloading the wagons has proved  
« its value and ought to be adopted gen-  
« erally.

« *c)* It seems desirable that, for the in-  
« terchange of private owner's stock, the  
« regulations should be as uniform as  
« possible. »

The section also gave its opinion that:

« It is desirable that this question  
« shall be carried forward on to the pro-  
« gramme of the next international con-  
« gress in the following terms :

« Interchange of goods rolling stock :

« *a)* Regulations to be adopted in in-  
« ternational relations;

« *b)* Regulations to be adopted between  
« the large railways of the same country;

« *c)* Regulations to be adopted between  
« the large railway companies and those  
« of local interest;

« *d)* Regulations for the interchange  
« of private owners' goods rolling stock. »

— These findings were confirmed by  
the full Assembly which notified the  
Permanent Commission of its wish in  
order that action may be taken.

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## WORKMEN'S DWELLINGS

*How is the problem of dwellings for their workmen and lower-grade employees solved by the railways? How do the administrations assist the individual efforts made by the staff, particularly as regards the building of dwellings for the use of labourers and employees?*

## Preliminary documents.

1<sup>st</sup> report (America), by Mr. A. F. BANKS. (See English edition of the *Bulletin* of July 1914, p. 595, or separate issue [with red cover] No. 1.)

2<sup>nd</sup> report (all countries, except America), by Mr. F. LOLLI. (See English edi-

tion of the *Bulletin* of February 1922, p. 359, or separate issue [with red cover] No. 60.)

Special reporter: Mr. F. LOLLI. (See English edition of the *Bulletin* of April 1922, p. 706.)

## SECTIONAL DISCUSSION

Meeting held on 21 April 1922 (morning).

Mr. DEJEAN, VICE-PRESIDENT, IN THE CHAIR.

**The President.** (In French.) — Gentlemen, in the absence of Mr. Paul I have the honour of presiding over this sitting, the subject for discussion at which is that of workmen's dwellings.

Mr. Lolli, special reporter, will now give his report on the question.

Mr. Lolli (In French) read his summary of the two reports drawn up on question XVI. This summary was published in the *Bulletin* of April 1922.

**The President.** (In French.) — Our thanks are due to Mr. Lolli for the report which he has just presented.

**Mr. Zutter, secretary.** (In French.) — In Switzerland, in localities where there is a shortage of housing accommodation, or where rents of apartments are unreasonably high, the Federal Railways grant mortgage loans at a low rate of interest on buildings bought or constructed by their employees, whether privately or through co-operative societies. The mortgage may amount to as much as two-thirds of the value of the building, including the ground on which it stands. The administration does not step in, however, until the building is up to the roof and possesses a real mortgage value.

Advances of capital for building purposes are as a rule made by the banks.

**The President.** (In French.) — The question of the housing of employees is somewhat complex, and it is difficult to lay down general rules as the question is affected by the special conditions of life prevailing in the various countries. We may, however, attempt, on the data which we possess, to draw up a summary of as general a character as possible.

According to the information furnished by the reporters, the question presents itself under two aspects. The first concerns those employees whom it is necessary to accommodate in the interests of the service itself; and this is the aspect which can be the most easily disposed of. It would appear useful to consider whether it is advisable that the categories of employees thus accommodated in the interests of the service should be extensive, or whether on the other hand it is preferable to limit their number by restriction to those employees whose work has to do with the safety of the line.

**Mr. Brickwell,** Great Northern Railway, Great Britain. — I think it is difficult to formulate a conclusion because the situation differs so widely from one country to another.

The general view in England is that the provision of houses is much better dealt with if left to private enterprise, and the ultimate solution of the question can only be satisfactorily dealt with by private investors, who, prior to the war, built houses in very large numbers.

In England at the present time provision has been made to erect by State subsidy 500 000 houses and when these are completed it is anticipated that the shortage will have been overtaken.

From a worker's point of view the

speaker was under the impression that in pursuance of the worker's desire to be independent of his employer in the matter of housing accommodation, they preferred to occupy dwellings provided by private enterprise to those provided by Railway Companies.

Some Companies have in operation « workmen's trains » for the convenience of their workmen.

**The President.** (In French.) — The second step is to ascertain if it is in the interests of the railway companies to provide accommodation for their employees, and if it is in the interests of the employees themselves to be housed by their companies. The English Companies answer this question in the negative; they consider it better to leave it to the private initiative of employees to find their own accommodation.

**Mr. Ball,** London & North Western Railway. — In England, so far as the London & North Western Railway Company is concerned, it is usually found that the housing requirements of their Staff are met by the local enterprise of builders, although the Company have had, in a number of cases, to provide cottages for their workmen, but generally this has been at places where not much cottage building has been carried out, and the Company have found it necessary to specially place a number of their workmen there in connection with the working of the railway traffic.

**Mr. Soulez,** Northern Railway of France (In French.) — The question has a double aspect, but it is above all a question of expediency. On the Northern Railway we have been compelled to build a large number of houses for our 75 000 employees. We have 11 000 houses, either grouped in townships, consisting of up to 1 500 hou-



ses, or scattered along the line. It has been found necessary to build these houses because of the situation in which we found our system after the Armistice and of the absolute dearth of dwellings.

But, leaving on one side this purely local aspect of the question, it remains none the less a fact that it is necessary to have a certain number of houses for those employees whose work may have to do with the safety of the line. When private initiative has not met existing needs, and when in any locality there is an insufficient number of dwellings, it would appear that the railway authority is obliged to build a certain number of dwellings for the employees affected.

**Mr. Mereutza, Roumanian State Railways.** (In French.) — We understand that in England private initiative suffices. In countries like Roumania, where private enterprise does not construct all the dwellings that are required, because much more remunerative investments for capital exist, the State or the companies are obliged to step in if they are to be in a position to keep the staff up to the required numerical strength. When railway companies can offer dwellings, they can secure the staff they require; when they have no accommodation to offer, they either have difficulty in recruiting staff or in retaining the services of their employees. In Roumania, therefore, the State is obliged to build dwellings. A law was passed last year which imposes a tax of 5 % on transport. This tax yields approximately 70 millions per annum, and part of this sum is devoted to the construction of dwellings for officials and workmen.

**Mr. Direz, French State Railways.** (In French.) — It would appear from what has been said that in England, as well as

in other highly developed industrial countries, there is scarcely any necessity to build workmen's dwellings. The same is true of France, except in so far as the difficulties resulting from the present general shortage of housing accommodation are concerned. On lines running through the large towns it has rarely been necessary to build workmen's houses. We have, on the other hand, been obliged to build workmen's dwellings whenever we have constructed sorting sidings at a distance from large centres. When the present general shortage of housing accommodation has been remedied, the question will still exist. In many cases we are compelled, in order to reduce the expense of purchasing building sites, to build stations and workshops at a distance from towns. In such cases the railway company must itself build workmen's houses or arrange for them to be built by others. In the open country this is a necessity which will always exist. Great difficulty is experienced from the point of view of working when our employees are obliged to live at a distance from their work; this is especially the case with train staffs, whose hours of service vary from day to day; it is extremely difficult to give them the necessary service instructions when they live at a distance of two or three kilometers from the line.

**Mr. Delaluque, Greek State Railways.** (In French.) — In Greece, where the population is very sparse, and where the widely separated stations are at a considerable distance from any large centre of population, the railway authorities are obliged to provide — except in a few large centres — for the housing of their employees. The employees are accommodated either in the station buildings, or in buildings situated near to the stations. The companies are compelled to adopt this

policy or they would be unable to keep their staffs up to strength. In all cases where there are no large centres in the vicinity it is essential that companies should provide dwellings for their staffs.

**The President.** (In French.) — It is quite evident that in countries where, whether generally as in Roumania or Greece, or in isolated cases as in the North of France, the employees find it impossible to provide for their own accommodation, it is absolutely necessary to build dwellings. This conclusion seems inevitable.

But under what conditions must the dwellings in question be constructed? It has just been said that the Roumanian State had no alternative but to build dwellings. It is, however, open to question whether the railway authorities should themselves build, or whether they should not rather make use of societies which are already in existence, or in whose formation they take an interest and to which they grant subsidies, to enable them to build groups of dwellings. Have the members of the Section any observations to make on this second point?

The question is to determine whether the railway authorities should themselves be called upon to build, or whether they should not rather encourage building societies to do so.

**Mr. Mereutza.** (In French.) — In Roumania the State is compelled to build because the societies do not come to its assistance. A law has been passed which gives us the necessary capital for such work. The question is in part disposed of as far as our country is concerned, but I realise that in principle it would be preferable to aid private societies which would undertake the construction of dwellings.

**The President.** (In French.) — The companies are compelled to step in when they have no alternative; but the aim must obviously be to transfer this responsibility to private enterprise, which the companies can encourage by assisting in the formation of building societies.

**Mr. Dreyfuss,** French State Railways. (In French.) — It would appear that the case of Roumania is that of a new country with a recent intensive development, in which private capital finds numerous investments other than in the building of dwelling houses. In that country, therefore, the State, which works the railways, is compelled to take direct action in order to provide for the housing of its staff.

This is not the normal state of things in countries like France, where before the war there was no necessity for the companies to provide dwellings except when opening up new centres of operation, workshops, etc., where such centres did not coincide with centres of the civil population.

Since the war conditions have changed considerably because of the general increasing shortage of dwellings, due particularly to the suspension of building operations. While continuing the direct construction of houses, some companies have also begun to take advantage of the legislation with regard to « cheap dwellings ».

The French State has devoted several hundred million francs to the development of the construction of « cheap dwellings » by private enterprise. With this object, societies are founded in which the capital (one-quarter of which is paid up) is provided by private individuals or by companies such as, in particular, the Railway Companies.

A quarter of the capital, amounting to 25 000 fr. entitles the society to the State

loan of 287 500 fr., at the rate of 2 % per annum, this sum being sufficient for the construction of about eleven dwellings.

Building is undertaken by the society on behalf of any private individual who can find one-fifth of the cost of construction of his dwelling, whether in building land or in cash.

The remaining four-fifths is loaned to him by the society in consideration of :

Interest at the rate of from 3 to 3 1/2 %;

Repayment at periods varying according to the age of the person concerned;

Assurance of the life of the person concerned by one single payment;

First mortgage on the building;

Nature of the construction, especially as regards hygiene, to be in accordance with legal requirements, etc.

Under the « régime » instituted by this legislation, whereby 4 1/2 % of the capital advanced is provided by the State, numerous local societies have been formed.

The Midi and Paris-Orleans Companies in particular have taken advantage of this legislation in order to provide dwellings, but this procedure is slow and ineffectual. The Paris-Orleans Company, for example, with eleven building societies on its system, had only 91 new houses at the end of 1921.

**The President.** (In French.) — As far as railways are concerned, this latter solution is not to be encouraged. Railway employees are essentially mobile, and cannot be confined to one particular district. The only employees who have a fixed place of abode are the workshop staffs. Legislation devoted to such a solution can only be regarded as an exceptional measure.

**Mr. Dreyfuss.** (In French.) — I have quoted this as an example, but it is not

an example to be emulated except in centres where there is a fixed population of office and workshop employees.

**Mr. Desroys du Roure,** Santa Fé Provincial Railway, Argentine Republic. (In French.) — As Director of the Railway Company of the province of Santa Fé, I can only confirm what has just been said with regard to countries which have a very sparse population. The President has, moreover, summed up the discussion on this point by a series of remarks with which I am in entire agreement.

On the other hand, however, I am very interested in the question of the provision of « cheap dwellings » in France, and I would venture to make an observation arising out of the remarks of the last speaker. It appeared to me that he was thinking exclusively of individual dwellings intended to become the property of those who cause them to be built by means of loans advanced to them by building loan societies. This system evidently presents certain serious disadvantages where railway employees are concerned.

In addition to these building loan societies, however, there exist « cheap dwellings » societies which build apartment houses for families which cannot or do not wish to become owners. At present the activities of these societies are hampered by lack of capital; it is difficult for them, in fact, to find shareholders, for the law limits the dividends which they may pay to 4 %, which is very little at the present day. I am aware that in this connection the Minister of Public Health intends to secure the modification of the law as it now stands, so that the maximum dividend may be increased to 6 %. On the other hand, however, the cost of construction to-day is such that with the pre-



sent maximum rent fixed for the « cheap dwellings », it would be impossible, as far new building is concerned, to earn more than 2 % on the capital invested.

I think, however, that I see a solution to this difficulty as regards railway employees. If the companies took up shares in the societies of which I have just spoken, on condition that the societies constructed dwellings specially for the companies' employees, and if the companies were prepared to be content with very small dividends, they would succeed in housing their staffs under good hygienic conditions without having to undertake the construction of dwellings themselves; there would be a kind of « buffer » between them and their employees, which would, I consider be a very desirable arrangement. The sacrifice, moreover, would not be greater than that which the companies would have to make if they themselves did the building.

**The President.** (In French.) — We have arrived at the conclusion that in principle, and except in special cases, it is not desirable that railway companies should themselves construct dwellings for their staffs, and that it is preferable that they should avail themselves of the services of either entirely independent societies, or of societies working under a protective legislation which secures them loans from the State, making it possible for them to earn a moderate rate of interest on the capital invested, and to let the dwellings on better terms.

We will now, if you approve, pass to the following question, which relates to the accommodation, etc., of the dwellings. What are the best arrangements to be adopted in the construction of these dwellings? How should they be made up? How many rooms should they con-

tain, having regard for the needs of a family?

**Mr. Direz.** (In French.) — There is a moral necessity for the separation of households. Our tendency is to build separate houses rather than large apartment houses. It is also desirable to provide each house with a garden in which the railway employee can profitably employ his leisure time. We endeavour to build separate houses in order to avoid the monotony of the settlement, and we also try to give each house a distinctive appearance which shall be satisfying to the eye.

**The President.** (In French.) — This system entails considerable expenditure.

It is of course undesirable for households to be crowded together, but on the other hand, in the interests of economy, it is desirable to build houses in groups. The solution would appear to lie in the grouping of dwellings in twos or fours, so that the cost of construction will be less than in the case of four isolated houses.

This arrangement secures both the separation of households and due regard for the interests of economy, the houses being so arranged that the families are independent one of the other.

**Mr. Direz.** (In French.) — We build houses having separate approaches and separate entrances for each household.

**Mr. Delaluque.** (In French.) — It is quite easy to keep the various households distinct.

**The President.** (In French.) — It may be concluded, therefore, that it is preferable to build in groups, and as far as possible in groups of four dwellings. Groups of more than four dwellings should only be resorted to in large cen-

tres, and in such cases special attention must be paid to the separation of households.

**Mr. Soulez.** (In French.) — It should not be forgotten that storeyed houses divided into several dwellings require a lower rent per dwelling; if, on the other hand, care is not taken to avoid the inconvenience arising out of the common use of one building by several households, and if in particular each household has not a separate entrance to their dwelling, serious inconvenience may result.

**The President.** (In French.) — We have now to consider the number of rooms which each dwelling should contain. It is obviously impossible to fix an absolute number, but it would be helpful to determine the minimum number. We should be able to come to an agreement on this point.

**Mr. Luuyt,** Paris-Lyons-Mediterranean Algerian Railways. (In French.) — We build storeyed dwellings in groups of fours, with a garden. Each dwelling consists of four rooms, but we can also provide, instead of two dwellings of four rooms each, one of five rooms and one of three, the five-roomed dwelling being available for an employee with a large family, and the three-roomed one for a household which has no children.

**The President.** (In French.) — It is understood that in addition to the dwelling properly so called there are out-houses, cellars, wash-houses and conveniences. This is more or less generally the case.

Another point to be considered is whether the enjoyment of the dwellings in question should be confined to a certain category of employees, or whether

it should be extended to the whole of the staff. Generally dwellings are provided for the lower grades only.

**Mr. Soulez.** (In French.) — In certain districts we have been compelled to accommodate all our employees, from the inspector down to the workman.

When we are faced with a normal situation we take into account first of all the necessities of the service. When these necessities are met, the apportioning of dwellings is decided according to the number of children in the employees' families.

**Mr. Genovesi,** Ministry of Public Works, Italy. (In French.) — As soon as the Italian railways were handed over to the State, the State Administration realised the necessity of providing economic and hygienic dwellings for its lower officials and workmen, apart from the accommodation already available for those attached to the service of the lines and stations. This was in addition to the measures adopted after the above mentioned transfer for the increase and improvement of these dwellings.

It would be unnecessary to inform the Congress of the considerable results achieved, since the reporter will have already done so exhaustively.

I will just say that it is thought possible through the provisions adopted at the start (that is by paying the low rate of interest of 3.75 % on the capital obtained from the Railway Financial Corporations) to keep the rent so low as to make such dwellings particularly attractive to railway servants. This, however, was not the case everywhere, even before the war, and there were some towns, as for instance, Florence, where the supply of these dwellings was in excess of the demand, for in addition to other reasons,

the rents demanded from the staff were higher than they were accustomed to pay for apartments or dwellings, although these might be very inferior as regards hygiene and comfort.

I wish to point this out, as it is obvious that on the outbreak of war, with all its financial consequences, and especially with the enormous increase in the cost of building (about four times as much as when railway employees' houses were first built), it was not possible to avoid charging very high rents, such in fact as railwaymen were unable to pay, notwithstanding their increased wages.

It followed that after having built for the staff more than 4 500 flats, work was suspended and only resumed after the Decree of 27 November 1919, which authorised a further expenditure of 30 million lire. It was decided that the Railway Administration should contribute 2 1/2 % of the 3.75 % which had been already fixed as the rate of interest for the capital to be used for railwaymen's houses, so that the charge on the tenants would be reduced to 1.25 %; upon which the amount of the rents would be fixed.

This is but a brief statement of the first part of the subject under discussion regarding the building of houses for workmen and lower officials under the auspices of the Railway Administration, but I will give some further information relating to the second part of the same subject. This is the question as to « the share taken by the administrations respecting the individual efforts made by the staff itself, especially with regard to the building of houses at the expense of the workmen and officials ».

The movement for the building of workmen's or economic houses began

somewhat late in Italy, and though in several big centres, philanthropic societies (some of which were formed for this purpose) had commenced the work, the State had kept quite outside such work. Things underwent a radical change as soon as the co-operative movement, which up to then had confined itself to the sphere of giving credit to the co-operative provision societies and to the co-operative societies engaged in public works or private building, began to turn its attention to the question. The State afforded many facilities as to taxes, credit, etc., but the then existing railway administrations held almost completely aloof, though in some towns, isolated but strong groups of railwaymen endeavoured to take advantage of the facilities afforded by the State to those who desired to obtain good and cheap dwellings for themselves.

With the nationalisation of railways and the passing of the Act of 14 July 1907, the Railway Administration took upon itself the building of houses for railway servants whose salaries did not exceed certain limits. These limits had to be raised through the depreciation of the lire. Although wages and salaries had to be increased, a most effectual stop was put to all voluntary initiative on the workmen's part.

The difficulty of the situation in Italy, however, like nearly everywhere else, has increased to such an extent as to make it necessary for the State and the railway administrations to join efforts in order to provide houses for their employees, irrespective of position or salary.

On account of this, the Railway Administration availed itself of the law by which the State offered to take upon itself the 3 % for the interests on debts contracted by co-operative societies of



officials for the construction of economic houses. By the decree of 27 November 1919, the State Railways Administration was enabled to invest a portion of the funds for pensions and superannuation up to 75 millions, in loans to railwaymen's co-operative societies for the building of workmen's houses, at the annual interest of 3.75 %, plus 0.10 % for reimbursement of general expenses. In this way, 3 % of the interest being charged on the funds set aside for the purpose by the Ministry of Industry, the interest charged to employees who became owners of a cottage or a flat, was reduced to 0.85 % with an addition which provides for paying off the capital in fifty years.

Later on a new Act was passed on 5 October 1920, converting into law the above-mentioned decree :

a) It sanctioned an additional draft of 45 million lire on the above-mentioned funds at a rate of 4 % interest;

b) and enabled the Deposits and Loans Institute to allow loans at the special rate of 4 %, in order to finance co-operative building societies, even in important railway centres, of railway servants.

Other acts have been issued on the subject, one of the most important being the Law of 7 April 1921, by which an additional 4 million lire was charged to the budget of the Minister of Industry, as a State contribution to the payment of interest on the loans for workmen's dwellings for railwaymen. After that, by the Law of 8 August 1921, an additional sum of 9 100 000 lire was added to the above; so that, with the preceding ones, the total contribution of the State for the payment of interest on loans contracted by railway co-operative societies amounts to 15 millions yearly, cor-

responding to a capital of 500 million lire. The results achieved by these various measures are already obvious and most promising.

Loans from the employees' pension funds have been granted to 11 co-operative societies up to an amount of 120 million lire.

A sum of 181 300 000 lire has been drawn from the Deposits and Loans Institute on behalf of 23 co-operative societies. Requests from 75 additional co-operative societies are now being considered, the financing of which will mean 298 millions more, and this has been partly allocated already. The requests for loans have been 109, one hundred of which have already been dealt with or soon will be. To meet them all, a sum of 631 200 000 lire will be necessary.

As can be seen from these data, the co-operative building movement in Italy is very strong and widely spread among the whole class of railway servants.

The 109 co-operative societies already financed, or which have sent in their requests, are distributed as follows : Piedmont, 11; Lombardy, 9; Venetian provinces, 6; Liguria, 3; Emilia, 14; Tuscany, 10; Marches, 6; Umbria, 1; Latium, 30; Abruzzi, 2; Puglie, 2; Campania, 12; Calabria, 12; Sicily, 2.

The readiness, zeal, and liberty shown by the Italian State Railways Administration in meeting this co-operative movement are really deserving of the highest praise, as having most effectually contributed to the solution of the housing problem in Italy.

**The President.** (In French.) — I think the moment has arrived to conclude the discussion, and I will ask Mr. Lolli to read the summary which he proposes.

**Mr. Lolli.** (In French.) — The summary is as follows :

« 1° It is desirable that each employee should have a healthy and conveniently arranged dwelling, consisting of not less than four rooms : a kitchen, a bedroom for the parents, and a bedroom each for the two sexes of children ;

« 2° It is desirable that, when necessary, the railway administrations should provide dwellings for their employees answering to the above requirements ;

« 3° With a view to arranging for this, it is in the interest of the administrations to act with private societies (either with or without State assistance, according to the laws of the various countries) whose business it is to build these dwellings, and to make the necessary financial arrangements with them for the purpose. It would also be an advantage for the administrations to encourage the formation of building societies amongst their staffs ;

« 4° It is necessary that railway administrations themselves arrange for the accommodation of employees whose work is connected with the safety of the line and who are unable to find accommoda-

tion in the immediate vicinity of their place of work. »

**Mr. Dreyfuss.** (In French.) — In many cases the entrance to a dwelling is through a living-room.

**The President.** (In French.) — That is not a desirable arrangement. The entrance should preferably be quite separated from the bedrooms. As we are engaged in drawing up suggestions with a view to securing as satisfactory conditions as possible, we may record the opinion that it is desirable to arrange for entrances separated from the living-rooms.

**A Delegate.** (In French.) — The conclusion reads : « It is necessary that... »

**The President.** (In French.) — This might be amended to read : « It is desirable that... »

If you do not desire to formulate a decision on the conclusions after a single reading, they can be printed in order that you may have a further opportunity of considering them more thoroughly. You will then be able to express a more mature opinion. If you so desire, this procedure shall be followed.

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**Meeting held on 24 April 1922 (morning).**

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**Mr. PAUL, PRESIDENT, IN THE CHAIR.**

**The President.** (In French.) — Gentlemen, before opening the discussion on question XV : « Interchange of rolling stock », we will close the discussion begun on Friday on the question of workmen's dwellings. I had not the honour of presiding over Friday's meeting, and before proceeding to discuss the suggested conclusions I will ask Mr. Zutter to read to us the summary of the discussion which has taken place.

**Mr. Zutter, secretary** (in French), then read the summary.

**The President.** (In French.) — If there are no criticisms as to the wording of the summary I will now put the suggested conclusions to the vote :

« 1° It is desirable that each employee should have a healthy and conveniently arranged dwelling, consisting of not less than four rooms : a kitchen, a bedroom

for the parents, and a bedroom each for the two sexes of children. »

**Mr. F. Level, French Light Railways.** (In French.) — May I be permitted to repeat the observation which has been made to us elsewhere, namely that we are not empowered to draw up conclusions, as this would be contrary to the regulations of the Association. These state that we should present a summary and not conclusions.

**The President.** (In French.) — What is the origin of this new decision? Up to the present conclusions have always been drawn up by vote of the sections. This procedure is in accordance with the regulations.

**A Delegate.** (In French.) — I have just heard similar observations in another section. It was a question of not placing a weapon in the hands of the administrations which would enable them to impose the application of any particular measure, the realisation of which would entail a greater or less degree of expense.

**The President.** (In French.) — As regards questions which affect State administrations as well as the railway companies, it is natural that conclusions should not be drawn up by the Association; but when it is a question of subjects which concern exclusively the railways which are affiliated to the International Association, I do not see why we should not vote conclusions.

**A Delegate.** (In French.) — A mere summary cannot be either discussed or voted by the plenary assembly.

**Mr. Zutter, secretary.** (In French.) — It is certainly permissible for us to present suggested conclusions.

**Mr. Delaluque.** (In French.) — As re-

gards the number of rooms, is there not a danger that we are providing a weapon against ourselves if we fix it at four?

**The President.** (In French.) — That number is obviously unnecessary in the case of unmarried men.

**Mr. Delaluque.** (In French.) — There is also the case of employees who, though married, have no children. They also do not require a four-roomed dwelling.

**The President.** (In French.) — It would appear advisable not to be so definite on this point.

**Mr. Dreyfuss.** (In French.) — It does not appear to me advisable to lay down that it is desirable that a dwelling should contain at least four rooms. In my experience a possible solution of the problem of the shortage of dwellings and the high cost of building often consists in building dwellings with a smaller number of rooms, with a minimum of two. The paragraph suggested would rule out this solution.

**The President.** (In French.) — Paragraph 1 now reads thus :

« 1° It is desirable that each employee should have a healthy and conveniently arranged dwelling. »

— Adopted.

« 2° It is desirable that, when necessary, the railway administrations should provide dwellings for their employees answering to the above requirements. »

In view of the modification made in 1° this should read :

« 2° It is desirable that, when necessary, administrations should provide such dwellings for their employees. »

— Adopted.



« 3° With a view to arranging for this, it is in the interest of the administrations to act with private societies (either with or without State assistance according to laws and customs of the various countries) whose business it is to build these dwellings, and to make the necessary financial arrangements with them for the purpose. It would also be an advantage for the companies to encourage the formation of building societies amongst their staffs. »

— Adopted.

« 4° It is necessary that railway administrations themselves arrange for the accommodation of employees whose work is connected with the safety of the line and who are unable to find accommodation in the immediate vicinity of their place of work. »

This obligation might place certain railways in an embarrassing position. The effective work of an employee connected with the safety of the line is diminished if he lives too far away from his work, but the single consideration of effective work should not of itself entail the necessity of building workmen's houses near to stations, which would cost more than the wages for extra time paid to the employee who lives at a distance. Let us content ourselves with saying : « It is desirable that... »

Mr. Dreyfuss. (In French.) — We might also profitably amend the wording to read « in the vicinity », by deleting the word « immediate ».

The President. (In French.) — The wording, therefore, will be as follows :

« It is desirable that railway administrations should take special care to provide suitable accommodation for those entrusted with work connected with the safety

of the line and who are unable to find it in the immediate vicinity of their occupation. »

— Adopted.

I believe that we are unanimous, and that question XVI may now be considered settled.

#### Termination of the work of the 4<sup>th</sup> section.

The President. (In French.) — Gentlemen, we have now completed the work allotted to our section.

In closing the discussion, I take the opportunity of thanking you for the assistance you have rendered to me, your President, to the Principal Secretary and to the Assistant Secretaries. I trust that the work accomplished during these few days will lead to progress in railway work, and that we shall be able to record this progress at the next session of the Congress.

Mr. Viglione, Italian State Railways. (In French.) — I would ask the President and the Secretaries to allow me to present to them the compliments of the General Manager of the Italian railways, and to thank them for their co-operation in the work of the International Congress in connection with the 4<sup>th</sup> Section. (*Applause.*)

The President. (In French.) — Will you please convey to the General Manager our sincere appreciation of what both he and his collaborators have done to facilitate our task. Our stay in Rome has been a delightful one; some of us only knew the splendours of the Eternal City through pictures or books, and are fortunate in having had this opportunity of contemplating them with our own eyes. This is an additional reason why this ninth session of the International Congress will

leave an imperishable memory in our minds.

Mr. Mereutza. (In French.) — I shall be voicing the wishes of all our colleagues in thanking the President for the remarkable manner in which he has directed our labours. It is due to his guidance that

we have been able to arrive at such good results in studying the questions which were submitted for our consideration. (*Applause.*)

The President. (In French.) — I am deeply sensible of your too flattering compliment, and I thank you heartily.

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## DISCUSSION AT THE GENERAL MEETING

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Meeting held on 27 April 1922 (afternoon).

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Mr. R. DE CORNÉ, HONORARY VICE-PRESIDENT, IN THE CHAIR.

GENERAL SECRETARIES : Mr. J. VERDEYEN; Mr. E. FRANZA; Sir HENRY FOWLER.

ASSISTANT GENERAL SECRETARY : Mr. N. GIOVENE.

Sir Henry Fowler, *general secretary*, read the

### Report of the 4<sup>th</sup> section.

« (See *Daily Journal of the session*, No. 6, p. 13 and No. 7, p. 12.)

« Mr. LOLLI (*special reporter*) and Mr. ZUTTER (*Swiss Federal*) gave a summary of the reports sent in by the various reporters.

« Mr. BRICKWELL (*Great Northern Railway*) was of opinion that it is better to leave to private enterprise the building of dwellings for railway employees. In England, authorities never interfere, except in case of absolute necessity.

« Mr. BALL (*London & North Western Railway*) supported Mr. BRICKWELL, alleging economic reasons on the part of railway administrations.

« Mr. SOULEZ (*French Northern*) considered that all questions relating to

workmen's dwellings are questions of expediency. The French Northern Company found itself compelled to provide 11 000 dwellings. It would have been unable to wait for, or count on, the help of private enterprise.

« According to Mr. MEREUTZA (*Roumanian State*), the situation in Roumania is somewhat peculiar. In order to provide the staff necessary to run the railways, the State was obliged to resort to special measures. It built dwellings for the higher as well as for the middle and lower grade employees of the railways. In order to cover this heavy expenditure, it imposed an increased rate of 5 % on all transport, and 60 % of the profit was devoted to the building of dwellings for the staff.

« While acknowledging that it would be better to leave the initiative of building to private enterprise, Mr. DIREZ (*French State*) declared that in France it is impossible for the administrations to

avoid taking it on themselves. He was of opinion that it is better for the administrations to build the necessary houses and so keep the working staff of the line together, instead of scattering it in the suburbs of big centres.

« Mr. DELALUQUE (*Greek State*) said that as regards Greece, the special features of the country and the sparseness of its population compel the administration to provide lodging accommodation for the whole staff.

« A discussion on the subject of State intervention by legislation respecting workmen's dwellings then took place, in which Messrs. SOULEZ, DREYFUSS (*French State*), DESROYS DU ROURE (*Province of Sante-Fé Railway [Argentine]*) and DEJEAN (*French State*) took part.

« From this discussion it was concluded that within the legal requirements of each particular case it was better for railway administrations to agree to construction by private initiative, either by individual contractors, or by means of co-operative associations of the staff. Most of the speakers were of opinion that it is in the interest of railway companies to encourage building societies in which the staff are interested, in spite of the somewhat numerous inconveniences arising from the procedure, from the point of view of free disposal or shifting of the workmen, who would naturally prefer stopping in their own property.

« As regards the type of dwelling that might be recommended, it appeared from the discussion that it would be better to build small houses containing four flats, than huge barracks containing a much larger number. As far as possible the

tenants should be provided with a small plot of ground for cultivation and keeping poultry. This arrangement is greatly appreciated by the employees, and benefits the administrations by tending to keep its staff both morally and physically in good health.

« Mr. GENOVESI (*Italian Government*) then explained the method by which the housing question had been solved in Italy. »

The President. — This is the

#### Final summary.

« It is desirable that each employee  
« should have a healthy and conveniently  
« arranged dwelling.

« It is desirable that, when necessary,  
« administrations should provide these  
« dwellings for their employees.

« With a view to arranging for this,  
« it is in the interest of the administra-  
« tions to act with private societies  
« (either with or without State assistance  
« according to laws and customs of the  
« various countries) whose business it is  
« to build these dwellings, and to make  
« the necessary financial arrangements  
« with them for the purpose. It would  
« also be an advantage for the companies  
« to encourage the formation of building  
« societies amongst their staffs.

« It is desirable that railway admi-  
« nistrations should take special care to  
« provide suitable accommodation for  
« those entrusted with work connected  
« with the safety of the line and who are  
« unable to find it in the immediate  
« vicinity of their occupation. »

— The general meeting ratified this summary.



## 5<sup>th</sup> Section : LIGHT RAILWAYS

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### INAUGURAL MEETING

19 April 1922 (morning).

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PROVISIONAL PRESIDENT, Mr. ERNEST GERARD, MEMBER OF THE PERMANENT COMMISSION.

The President. — Gentlemen, the Permanent Commission has deputed to me the duty of arranging for the Officers of the 5<sup>th</sup> section. Unless you have other names to suggest, I beg to propose the following :

As President,

Mr. F. TAJANI, engineer, president of the Italian Federation of Transport (member of the Permanent Commission and vice-president of the Italian Local Committee).

(Applause.)

As Vice-Presidents,

Mr. H. CAUFRIEZ, general manager of the Belgian Light Railways Company;

and Mr. R. PEIRONCELY, assistant manager of the Madrid, Saragossa and Alicante Railway.

(Applause.)

As principal secretary I was going to propose Mr. BERTHELIER, manager of the Light Railways Company of France, but unfortunately, owing to a death in his family, he has had to return home. I therefore propose Mr. Francis LEVEL, manager of the Company of railways of local interest (France), and he has kindly consented to accept the nomination.

(Applause.)

— The section, on the proposition of the President, proceeded to complete the secretariat, and agreed on the procedure with regard to the discussion.

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### CARRIAGES AND WAGONS FOR LIGHT RAILWAYS

*Types of carriages and of wagons for narrow gauge railways. Special wagons for facilitating unloading, transshipment and change of gauge.*

#### Preliminary documents.

Report, by Mr. C. GAVIRAGHI. (See English edition of the *Bulletin* of December 1921, p. 2075, or separate issue [with red cover] No. 49.)

Special reporter : Mr. C. GAVIRAGHI. (See English edition of the *Bulletin* of April 1922, p. 711.)

## SECTIONAL DISCUSSION

Meeting held on 19 April 1922 (morning).

Mr. F. TAJANI, PRESIDENT, IN THE CHAIR.

**The President.** (In French.) — I have to thank you for the honour which you have done me in choosing me to preside over the discussions of the 5<sup>th</sup> section. This honour is not due to my personal merits, but to the fact that I am the President of the Transport Federation of Italy, an Association which includes 173 Light Railway and Tramway Companies. It is in the name of this Society that I extend a welcome to our eminent colleagues who are going to take part in our discussions.

The war and the troubled period which followed it have completely interrupted experimental technical work, because the financial situation and the

stress of circumstances have no longer allowed these to be carried out carefully and considerately.

The time has come when these can be resumed, and no society can carry out this work as well as the International Railway Congress.

I hope that our meetings will lead to substantial results. At the present day, light railways are undergoing a serious crisis by reason of the enormous increase in expenses as compared with receipts, and our principal attention should be given to meeting this crisis.

We shall see that all the questions which are submitted for our examination are dominated by the desire to find so-

lutions of such a nature as to reduce expenses in order to balance finances.

We will now proceed to deal with the first question which appears on our agenda: « Carriages and wagons for light railways. »

I now call upon Mr. Gaviraghi.

Mr. Gaviraghi, *reporter*, then read the special report which he had drawn up, and which has been published in the April 1922 number of the *Bulletin*.

The President. (In Italian.) — The discussion is now thrown open. I call upon Mr. Lanzerotti.

Mr. Lanzerotti, Ministry of Public Works, Italy. (In Italian.) — I would like in the first place to ask the reporter to mention that there are at the present time in Italy narrow gauge lines which have maximum gradients of more than 1 in 14.3. These are electrically worked lines. I should like also to make special mention of the Trentino Railway which runs from Dermulo to Col de la Mendola and which was constructed in 1909. This is a railway of the same type as the Bernina line. At the time this line was opened, on which the gradients of some sections are as much as 1 in 12.5, the Austrian Ministry of Railways refused to allow it to be worked, saying that it was not permissible to work a railway with ordinary adhesion in cases where the gradients were more than 1 in 16.6. We, in asking authority to work this railway, maintained that it was constructed in accordance with the clauses of the act in which this gradient was provided for, and that an electrically operated railway might be worked even with steeper gradients, in fact the railway from Dermulo to Col de la Mendola has been worked since 1909, notwithstanding a gradient of 1 in 12.5. On this

line, which has a length of 15 miles, no accident which has been due to failure of the brakes has occurred up to the present, and these are the accidents which it was feared might happen.

The President. (In Italian.) — How many vehicles are included in each train?

Mr. Lanzerotti. (In Italian.) — There are two vehicles in a train. We have powerful locomotives with 300 H. P. motors, and these haul two vehicles. The total weight of the train may be about 62 tons, but from considerations of speed and in order to satisfy the Inspector General of Railways, who asked for it to be provided, we have adopted on this line an electro-magnetic rail brake of the Westinghouse type. This causes the train to be controlled by four kinds of brakes: the hand brake, the braking effect caused by short circuiting the motors, the Hardy vacuum brake, and in addition, the electro-magnetic brake operating on the rails. Thanks to these four brakes, we have carried out, for ten or twelve years, a continuous service without the slightest accident. We can thus state that the narrow gauge railways in our mountainous districts can be worked efficiently and safely, even if they are made with maximum gradients of 1 in 12.5.

I remember having had occasion to inspect the Bernina Railway and other Swiss railways, and have conducted tests with the permission of the management of these railways, and can thus say that the town tramway at Lausanne ascends, at the Pontoise incline, a gradient greater than 1 in 12.5. I was informed, however, that this gradient which, if I am not mistaken, is as steep as 1 in 10, makes it necessary to employ special



safety devices for braking when making a descent.

The Lausanne tramways have adopted a wooden rail which is placed alongside the steel rails. If the vehicles get out of hand in descending the incline, special shoes are brought to bear on this wooden rail, which thus produces a braking effect.

That is all I have to say about gradients.

As regards the question of the radii of curves and of gauge, allow me to ask the reporter to lay stress on the fact that both in Italy and in foreign countries one would like to arrive at an agreement on the gauge question.

The electrified railways of the Eastern Alps in Switzerland, that of Bernina and the whole of the system which runs down as far as Landquart in the Rhine Valley are constructed entirely to the metre (3 ft. 3 3/8 in.) gauge. We also have endeavoured in the Trentino to adopt this gauge. On the other hand in other districts of Italy, railways have been built to the gauge of 3 ft. 1 3/8 in., but in the interests of the railways and the benefit which our narrow gauge lines ought to confer on the population, especially in the mountainous districts, it is necessary to come to some agreement to adopt a uniform gauge, which in my opinion should be the metre gauge.

The President. (In Italian.) — This question is connected with the subject of technical standardisation. If this scheme was adopted for the narrow gauge railways, it goes without saying that the gauge would be standardised.

Mr. Lanzerotti. (In Italian.) — I wish to say a few words on the question of curves. There is no doubt that the adoption of a large radius of curvature leads to appreciable advantages in oper-

ating the line. I have, however, noticed that in the construction of mountain railways, if we wish to reduce the cost of construction, it is necessary sometimes to use curves of small radius. We may claim to have in the Trentino quite a satisfactory service, although we have adopted curves of a radius which for the metre gauge has a minimum figure of 2 chains.

There is no doubt that it would have been preferable to have adopted 2 1/2, 3 or even 3 1/2 chains, but we have saved on the cost of construction, and since the cost of construction has increased considerably latterly, perhaps it is as well not to insist on the adoption of a large radii of curvature for fear of increasing to too great an extent the cost of construction, and consequently the capital charges.

As regards methods of operation and passenger stock, we have attempted to introduce on our railways, 8-wheeled trailer cars, which have given very satisfactory results. I think special attention should be given to this point.

I will ask the reporter to take special note of the fact that new electric trains both in Italy and in foreign countries should be constructed in accordance with the type which is partially adopted on the Bernina Railways, and on those of the Bernese Oberland, and also to a very large extent by the company operating the suburban lines of Milan, that is to say, rail cars with 8-wheeled trailer cars, the whole being intercommunicating. This arrangement tends to increase the comfort of the passengers and facilitates the operation of the trains.

In concluding these few recommendations, I wish to express my appreciation of the work of the reporter on light railways.

Point of order.

Mr. Biraghi, Italian Organising Committee. (In Italian.) — I wish to make a statement of a general nature which has been suggested to me by Mr. Lanzerotti. It is as follows. A large number of light railways, by reason of the existing rules, cannot be members of the International Railway Association. It follows that the majority of light railways are not included in the particulars which we have collected, because questionnaires can only be sent to companies which are members of the Association. This is very unsatisfactory as far as our section is concerned, because there are very few light railways whose systems are as long as 62 miles. I propose therefore, in accordance with the observation of Mr. Lanzerotti, who has not given us any information, as his company was not asked to do so, that while retaining the existing conditions of admission to the Association, the National Transport Federation, where such exists, should be authorised to also send detailed questionnaires to the companies which are not qualified to belong to the Association. This is a question of a general order which I submit to the President. (*Agreed.*)

The President. (In Italian.) — I think there is nothing to prevent reporters from addressing Federations of companies in the same way as they send their enquiries to each of these in particular. In my opinion the rules do not prevent one addressing enquiries to these Federations in the same way as is done to each of the administrations which belong to the Association.

One can thus obtain particulars of lines of less than 62 miles through these Federations.

Mr. Biraghi. (In French.) — I under-

stand that, as far as one's own country is concerned, but that is not sufficient. I am an Italian, and I am not acquainted with the companies of other countries. For this reason the central office should make the necessary enquiries.

The President. (In Italian.) — It is necessary that these Federations should belong to the International Association.

Mr. F. Level, *principal secretary*. (In French.) — In answer to Mr. Biraghi, I am of opinion that the question which he has put may be easily solved. I happen to have been informed by the Permanent Commission that when a reporter is in search of data, he is at liberty even to approach companies which are not affiliated to the Association. Consequently, when a reporter is collecting his information, he should make enquiries of the railway companies who belong to the Association, but he may also make enquiries of other companies, and especially of federations of companies. As President of the French Federation, I naturally agreed with the view expressed by Mr. Biraghi. I think we have only to put this question to the Permanent Commission in order to obtain in all probability their approval. One might, without admitting into the Association companies which are too small, at least allow a referendum to be taken among these. I think such a course is quite admissible.

The President. (In Italian.) — If we are in agreement we might write a letter to the Executive Committee of the International Association expressing our desire that as soon as possible the 62 miles limit should be abolished. At the present time companies which have not a system as long as 100 km. are in the majority.

Mr. Biraghi. (In Italian.) — No, no. We do not ask for the abolition of this limit. We have no right to do this. We could ask that, in cases where it is a question of taking a referendum, we could send out questionnaires, etc., and that the Executive Committee will not limit the sending of these to companies belonging to the Association, but also to permanent Federations of adherent companies asking them to forward the questionnaires to the companies which cannot be members on account of the length of their system.

Mr. F. Level, *principal secretary*. (In French.) — It is necessary that the Associations of the different countries should be consulted so that they themselves can consult their members. I would repeat that for my part I quite agree with this idea, as President of the French Federation. We are quite prepared, if such particulars are asked from us, to send them to our adherent companies which cannot be members of the International Association, and who have asked us, the French Federation, to receive this information and send it on to the reporters. I think that is quite satisfactory.

Mr. Biraghi. (In French.) — Absolutely.

Mr. F. Level, *principal secretary*. (In French.) — It will not be necessary to extend this to all the small companies.

Mr. Biraghi. (In French.) — Apparently not.

The President. (In Italian.) — It is a matter then of extending the enquires to the Federations of companies.

Mr. Lanzerotti. (In Italian.) — Perhaps the lack of information as regards the Trentino Railways arises out of the

special conditions which formerly obtained in this province.

The President. (In Italian.) — No, no, we are only dealing here with a question of a general nature. I will not fail to transmit the wish which has just been expressed here to the Executive Committee of the Association, and ask them to give it their attention.

*Discussion proper.*

Mr. de Souza, Ministry of Commerce and Communications, Portugal. (In French.) — There is an omission in the report. There are no particulars dealing with Portugal.

In our country we have passed through different phases as regards the gauge question. We commenced to construct our system on the standard European gauge, but unfortunately a gauge of 5 ft. 5 3/4 in. has been adopted, and it has been necessary to alter our lines.

More than half of the country is very mountainous, and this gauge is very costly. We have therefore constructed and granted concessions to a large number of the narrow gauge lines of 2 ft. 11 7/16 in. and 3 ft. 3 3/8 in. gauge.

We have 379 miles of narrow gauge, of which 84 miles are worked by the State and 295 miles by four companies. There is about 40 miles of 2 ft. 11 7/16 in. gauge.

The technical conditions thus vary widely.

What we lack at the present time is standardisation. If our practice was more unified, we could carry out the programme which is projected more easily.

We largely employ bogie coaches for passenger trains, and find them satisfactory, but at the same time there are the different conditions from a technical point of view which renders the exchange



of rolling stock very difficult. I may say again that part of our country is very hilly.

We certainly should take steps towards standardisation, and the time is favourable for establishing this.

It is necessary to reduce the number of types to a very small number so as to facilitate the exchange of rolling stock.

**The President.** (In French.) — Then you agree with the conclusions of the reporter?

**Mr. de Souza.** (In French.) — Yes. The State lines in Portugal and several others of recent construction have all their carriages mounted on bogies.

**Mr. Forges Davanzati,** Italian Transport Federation. (In Italian and in French.) — The communications which have come in to complete the reporter's statement are certainly interesting, but it is obvious as regards the majority of findings which we have to come to, that it would be better in the first place to deal with the final summary which has been drawn up. I would say that I am entirely in agreement on the first paragraph. I wish, however, that it had been worded more carefully. We say to the States, « standard practice is also to be recommended for light railways » because we say « it is also of advantage to these railways to be able to interchange rolling stock », but, Gentlemen, it is prudent to make this statement, because we wish on our part that the railways, when establishing its policy on this point, should be guided in essentials by the practice of our Federations, so as to reduce as much as possible Government intervention.

I would add that it is necessary that we should be assured that the transition period which will be necessary, for the

case of lines already in operation, will not be such as to cause the companies to make too great or too hurried sacrifices.

I ask therefore, on this first point, that there be added to the paragraph of the final summary, a clause which will clearly lay down the method to be followed in drawing up specifications which should be, in essentials, founded on our practice, and in the drawing up of which we should co-operate.

We have in every country transport federations, and we have also our International Railway Congress, that is to say, organisations which are best qualified to furnish the primary information necessary to drawing up these specifications.

That is all I have to say as regards the first part, and I now pass to the second.

I should like a clear distinction to be made between the standard practice of light railways, that is to say, the conditions which are absolutely necessary to effect an interchange of rolling stock and what is quite another matter, namely, the convenience of having a small number of types which might in general be used on the different groups of light railways, in accordance with their traffic conditions.

We are of opinion, especially as regards light railways, that the adoption of definite types enables an economy to be realised in the construction and maintenance of rolling stock. I am convinced that this is a very great advantage, but I hope that in the final summary we shall avoid allowing this idea to occasion any interference whatsoever on the part of the State as regards legislation. This is a question which we have to settle ourselves in collaboration with the carriage builders in each country, and soon — we should like to think — with

builders in other countries from an international standpoint.

On the third point, the reporter has proposed a paragraph dealing with the suitability of narrow gauge lines for carrying standard gauge railway stock on bogies, and I think he wished to refer especially to the « Langbein » type, but we all know that this method of transport entails the adaption of existing lines and the construction of new lines so that a structure gauge will allow of the passage of standard gauge wagons, and this naturally causes greater constructional cost. There is also a second important point to consider, which is the increased cost for motive power, because the dead load due to the tare of a normal gauge wagon, plus the weight of the bogies, compared with ordinary transport carried out by means of reloading the goods at the station where the narrow gauge railway meets the standard gauge. It may be said, however, from a general point of view, that the advisability of this method depends upon the nature of the goods which constitute the traffic on the narrow gauge line, the ease with which these may be reloaded, and the length of the line and the frequency of tunnels and other important works which it would be necessary to alter in order to increase the loading gauge. It is necessary to decide whether, in view of the particular conditions, it is better to reload at the station where the narrow gauge railway connects with the standard gauge, or whether it is better to incur the expense necessary to alter the loading gauge so as to allow standard gauge wagons to pass, and also the considerable increase in motive power costs corresponding to a larger non-paying load. I therefore wish, while recommending this unification for the case of lines to be constructed, to make some reservation

for the case of lines now in use, so that we, whose remarks may result in government action, may not say that standardisation should be imposed in every case on all lines at stations in which it might be very costly and *uselessly* costly. (*Applause.*)

I will finish, Gentlemen, by asking you to excuse me if I have not expressed myself clearly in French. (*More applause.*)

Mr. F. Level, *principal secretary*. (In French.) — Gentlemen, we should on the contrary congratulate Mr. Forges Davanzati on the way in which he has spoken, not only in French, but also in Italian. (*Signs of approval.*)

He has spoken so clearly, than even those who only understand a little Italian have quite grasped what he has said.

I am very glad that our esteemed colleague has raised this question. I had intended doing the same.

I am absolutely in agreement with him in saying that we should be careful in drawing up the final summary so as not to hamper the companies, especially those railways which are already open.

There is a distinction to be made between railways already in operation and those in which one is at liberty to decide on the principles on which they are to be constructed.

If we keep to the final summary as it has been proposed, there is a risk that government departments may say that you yourselves in your Congress have recommended such and such a practice, in consequence it is necessary that even for lines already in operation you carry out the practice which you have yourselves recommended.

This, however, is absolutely contrary to what is intended. For this reason I think that we might say : « Technical standardisation is to be recommended

for narrow gauge railways, and should become in all countries » (we are not only dealing with Italy) « the subject of regulations as regards new lines, these regulations should be decided upon and drawn up by the Federation in each country ».

Is there any objection to this wording?

**The President.** (In French.) — Might be decided upon.

**Mr. F. Level.** (In French.) — The words « should be decided upon » is better, since we are expressing an opinion. In this form the text may be satisfactory to everybody.

**Mr. C. Sapin,** Yonne Light Railway, France. (In French.) — Do you think it is necessary at a meeting composed of railway construction engineers to ask the authorities to impose upon us new laws and fresh burdens?

However, with the proposed wording we are inviting just what we most feared, that is to say, interference from public authorities. I therefore ask that this should not be put in. The public authorities ought to assist us and help us to make our enterprise successful. This point is of very great importance, especially at the present moment. (*Laughter.*) Instead of accepting the view of the esteemed President of the French Federation, Mr. F. Level, I think that it is preferable to avoid any reference to governments and any demand which would result in strangling us a little more. (*Renewed laughter.*)

**Mr. F. Level.** (In French.) — I should like to say a few words in answer to my colleague and friend Mr. Sapin.

Certainly it is not a good thing in a Congress like ours to ask government authorities to tie our hands and feet, but this is not the point. There is at the

present time a tendency in all countries, both as regards small as well as for the large railways, to adopt standardisation (the word is American), and it is certain that all governments will wish to make us adopt standardisation.

The modification which I have proposed tends to bring us into line on this point of view, the utility of which is very apparent, especially in the country of which we have special knowledge, my friend Mr. Sapin and I, that is to say, France. During the great war which we have gone through, on a railway close to the front near the Straits of Dover, of 124 miles in length, at the time of the German push in 1918, we had occasion to carry out considerable traffic with a narrow gauge of 3 ft. 3 3/8 in. on lines which had previously only a normal traffic. We carried out on these lines almost six times the pre-war traffic. It was necessary to obtain very quickly narrow gauge rolling stock picked up right and left, not to say North and South. We found that there were great difficulties in operation owing to the fact that the rolling stock which was sent to us was not of the same type as our own. There were, in particular, different types of couplings. We had therefore to adopt expedients which were admissible in times of war, but not in times of peace.

For these reasons I do not see that it is objectionable to adopt for lines to be constructed in the future the standardisation which is asked for in the resolution, and this does not appear to me to present any great objection, especially if we include the reservation put forward by Mr. Forges Davanzati. I do not think the section will be going outside its scope in passing this resolution.

**The President.** (In Italian.) — There are apparently points of agreement be-



tween Mr. Level and Mr. C. Sapin. Mr. Level is the supporter of technical unification, but he has wisely remarked that technical unification or standardisation that is to say the unification of types on light railways, should be adopted for new lines without becoming a burden on the railways already in operation.

Mr. Sapin, who knows the short comings of governments, both in Italy and in France, fears that a resolution expressed on this question by our Congress might lead governments to set up rigid regulations which would be difficult to modify and which would impose fresh burdens on the companies. I do not think, however, that there is any real disagreement. We all agreed that railways, as they exist to-day, should strive for standardisation so as to facilitate the interchange of rolling stock, but we could carry out this programme of our own accord and according to our own resources. If we must have legislative interference, it should only apply to new railways. If we confine ourselves to these limits, we shall not say anything which will be prejudicial to the companies who look to the Congress to produce technical advice which is to their advantage and not to their disadvantage.

The following idea should therefore be carefully expressed, that all legislation in favour of technical unification of narrow gauge railways should apply to lines to be constructed in the future, while everything which is favourable to the application of common or similar methods in the operation of existing railways should be due to their own initiative and should be carried out within the limits of their means.

Mr. Biraghi. (In French.) — I would like to say that to recommend standard-

isation for lines to be constructed in the future signifies that one wishes to exclude it in the case of existing lines. We cannot have any wrong interpretation of this subject, and one would thus avoid the anticipated risk which would be very serious for the lines in operation.

Mr. de Souza. (In French.) — It is necessary to give a certain amount of latitude to the resolutions.

Public authorities would intervene wherever they had the opportunity to bring about technical unity.

The President. (In Italian.) — Has no English speaking delegate any special clauses to put forward?

Mr. de Souza has perhaps not quite understood matters. When we say technical unity, we are not only dealing with the construction of the lines or the gauge, but also of the rolling stock.

Mr. de Souza. (In French.) — It is necessary to adopt a standard type so as to obtain technical unity, in agreement with the existing companies.

The President. (In French.) — In that case, Mr. de Souza's point of view is rather more narrow than that which we have just adopted. He would like, if unity of practice is to be adopted, that it should be adopted not only on lines to be constructed in the future, but also in the case of existing lines, one should try to impose as far as possible the adoption of the standard practice. That is the point of view to which Mr. Sapin could not agree, because it entails expense in the case of existing railways. That is why, before dealing with the final summary of the section, it is necessary that we should come to an agreement on this principle. As far as I am concerned, I think we should adhere to the first idea, that is to say, to limit ourselves to

recommending unity of technical standards and the necessity of adopting the same in the case of new lines. As regards lines already open, I am of the opinion that we can only make a recommendation to the companies, without any government interference, and without any restrictions, to adopt in their own interest this idea of technical unity with the object of facilitating interchange of rolling stock and the other advantages which arise out of standardisation.

The economy in construction may also on the other hand appeal to the companies working the lines.

When a type of rolling stock has been settled upon which may have many buyers and a large sale in the rolling stock market, it is certain that this rolling stock will be cheaper, which is the same as saying that the wagon builders being no longer obliged to construct different types of carriages and wagons for each railway, would be able to put on the market types of standard wagons which would find buyers more easily and would also reduce costs generally.

Mr. Forbes, County Donegal Railways, Joint Committee, Ireland. — In Ireland we have but two gauges, the normal gauge (5 ft. 3 in.) and the narrow gauge (3 ft. 0 in.). The latter lines have generally speaking been provided for the development of agricultural districts; in some cases the Government have met the entire cost of construction and equipment, and in others the Government bear a portion of the interest on the capital expenditure. The rolling stock used on the Irish narrow gauge lines is unfortunately not of a uniform type. It has been found that this is a serious disadvantage in the economical working of the concerns, and the tendency is to standardise the working units.

The President. (In Italian.) — Mr. Forbes is also a supporter of technical standardisation in order to standardise rolling stock.

Has the reporter anything else to add?

Mr. Gaviraghi, reporter. (In Italian.) — The remarks which have just been made are by no means contradictory to my report. Such contradiction as there is, is more apparent than real, because these remarks support all the fundamental principles of technical standardisation.

As regards the value of these remarks, I may observe, in my turn, that they deal with its practical application. It is obvious, however, that in practice, any general scheme cannot be applied strictly to the letter, even if legislative measures follow, which is very improbable, since it very rarely happens that what is only the expression of the opinion of the Congress becomes law; certainly this point is very difficult; and in this connection there is room for discussion and the circumstances for each line and each district should be looked into.

I thus unreservedly associate myself with the remarks made by all the speakers.

The President. (In Italian.) — I call upon Mr. Level to read the resolutions of our section.

Mr. F. Level, principal secretary. (In French.) — If you adopt the first proposal, the other two follow as a matter of course.

I will therefore again read the first proposal :

« Technical standardisation is to be recommended for narrow gauge railways, and regulations dealing with this should be drawn up in all countries as far as concerns new lines; these regula-

tions being drawn up and put forward by the Federation of each country... »

**The President.** (In French.) — By the unions.

**A Delegate.** (In French.) — By the associations of transport companies.

**Mr. F. Level.** (In French.) — It is proposed to say « Drawn up and put forward by associations of transport companies in each country. »

**Mr. Tsang Ou,** Ministry of Communications, China. (In French.) — And how in the case where the railways belong to the State?

**Mr. F. Level.** (In French.) — The State can do as it pleases; it is its own master.

**Mr. Ghisi,** Circumetnea Railway, Italy. (In Italian.) — I wish to make a recommendation. Since the first paragraph shows a tendency to follow the type of rolling stock used on standard gauge lines, and since this tendency would be detrimental as regards a large number of light railways, especially those with heavy gradients, because (even if I should appear to be retrogressive) I think that the type of light rolling stock is the most appropriate for certain lines and certain conditions, I should include in this paragraph of the final summary technical standardisation as regards details, but not as regards the type of rolling stock in general, and especially as regards passenger carriages. In other words, I agree that standardisation is right in details which concern, for example, the ease of coupling the vehicles, equal height of buffers, system of springing, and arrangement of draw gear, but I do not agree that legislation should forbid us to build certain types and oblige us to build others for certain lines under conditions

under which they might be unsuitable, both on account of the unnecessary dead weight and also for other reasons for which it is unnecessary to mention.

**Mr. F. Level.** (In French.) — That is brought out in the report, but there is a difference between the report and the final summary. At the moment we are not dealing with the report.

**The President.** (In Italian.) — I think we should remind Mr. Ghisi that he should confine his discussion to the final summary.

**Mr. Ghisi.** (In Italian.) — But the reporter states that there is a general tendency to follow the types in use on the standard gauge railways.

**The President.** (In Italian.) — That is only the opinion of the reporter.

**Mr. Ghisi.** (In Italian.) — I should wish, if possible, that legal intervention should confine itself to dealing with these points, the details which might facilitate coupling of vehicles. That is my recommendation.

**The President.** (In Italian.) — That is to say, technical unification as regards narrow gauge railways differs from that as regards standard gauge railways. Technical unification should not, however, force us to construct identical wagons for all the railways, it should only ensure that the wagons can pass from one railway to another.

We might add the word « special » in order to avoid any misunderstanding.

**Mr. F. Level.** (In French.) — The wording would then be : « Standardisation of type for light railway is recommended and should be provided for by law in all countries in the case of new lines : the legal proposal being consider-



ed and presented by the Associations or Unions of Companies concerned in each country. »

**The President.** (In French.) — Does nobody oppose this? I therefore declare that the first paragraph is carried.

We will proceed to deal with the second.

**Mr. F. Level.** (In French.) — Gentlemen, since we have just passed the first paragraph, in agreement with the President, we have worded the second resolution with a very slight modification to that which has been proposed by the reporter. We think that in order to conform to the opinion which has been expressed, that we should continue to be very careful. We might therefore in these conditions add the words : « As far as possible in the future. »

It is stated therein : « Rolling stock for narrow gauge railways should be, apart from certain exceptional circumstances, confined to a small number of types. » I propose to say « should, as far as possible in the future, be confined to a small number of types depending on the conditions necessary for railways which differ in the nature of their traffic and in constructional characteristics; this would allow of the economic production of the vehicles ». This wording should not be objectionable to anybody.

**The President.** (In French.) — Has anyone any observations to make on the second paragraph?

**Mr. Forges Davanzati.** (In Italian.) — Allow me, Gentlemen, to lay before you a proposal drawn up in terms which seem to me to be more in harmony with the first paragraph.

I ask that the modification to be made

to the second paragraph should express the view that the designs which have to be got out are altogether matters for the associations of transport companies and for rolling stock builders, and that the State should take no part in this matter.

In order to put my idea into words, I have drawn up the following proposed text :

« Associations of transport companies in each country are in the position to establish technical standardisation on narrow gauge railways, and to evolve all the designs of rolling stock which may be suitable for the majority of traffic conditions. These designs, which should be got out in collaboration with the rolling stock builders, would facilitate, ease of production. »

**Mr. Marguerat,** Viège-Zermatt Railway, Switzerland. (In French.) — Gentlemen, allow me to say a few words on the Swiss light railways.

Our association comprises about 110 companies.

We have a committee which looks into the question of technical standardisation, not only as regards rolling stock, but also as regards systems of electrification. The majority of lines are electrified, but it will be seen therefore that it is absolutely necessary to adopt a uniform system.

The same is true as regards the motors.

We experienced during the war difficulty in procuring material for replacements, and could get little help from other similar companies, owing to the great diversity of practice, all the companies having stock of different types. As regards tyres, for example, there are a great number (70 different types). We have been able to reduce these 70 types to 3 or 6 patterns.

This work has progressed very well

without any State intervention. We have thus been able on our own account and by mutual agreement to unify and diminish the number of types.

We are investigating, from an electrical point of view, an important modification which we hope will produce good results. I believe this is the right method.

**The President.** (In Italian.) — Mr. Marguerat has said that in Switzerland the initiative for work dealing with technical unification has been taken by the Swiss Association of Light Railways, and that it has given good results.

The Swiss railways had formerly 70 types of tyres which have been reduced to 5.

They are also dealing with another very important question which we should also mention; the unification of electrical railway equipment, that is to say, unification of motors and of the voltage used. Electric traction has been most widely adopted on the light railways, and it is perhaps on these that electric traction shows its greatest advantages. It is therefore advisable that this scheme of standardisation, instead of dealing only with gauge and types of rolling stock, should also embrace the unification of voltage and of the types of motors.

If there are no objections on the part of the section or on the part of the reporter, I will ask our Principal Secretary to add a few words dealing with the standardisation of electrical equipment, keeping, however, within reasonable limits so as to avoid excessive expense to existing companies.

If there is no objection, I propose that we make in the second paragraph an allusion to the subject of the unification of electrical equipment, but a very unassertive allusion so as not to encroach

on the sphere of the second section, which is dealing especially with the electrical side.

**Mr. F. Level.** (In French.) — If we say : « The design of types of rolling stock and trailers », would that have your approval?

**A Delegate.** (In French.) — I do not see the difference between the two expressions. Let us say : « Rolling stock and motive power ».

**The President.** (In French.) — Let us say : « Electrical equipment ».

**Mr. F. Level.** (In French.) — Very well.

**Mr. Forges Davanzati.** (In Italian.) — The question of electric traction is being specially considered by the second section of the Congress, therefore, may not what we are adding be in disagreement with the decision of another section? I fear this may be so.

**The President.** (In French.) — Let us say : « Including the electrical equipment ». Is that agreed to?

**Mr. Marguerat.** (In French.) — If we make no mention of this point it may be thought that we are not interested in the matter.

Let us therefore come to a decision since this is of interest to us.

**The President.** (In French.) — We will therefore say : « Including the electrical equipment ».

**Mr. Level,** will you please read the second paragraph.

**Mr. F. Level.** (In French.) — It reads as follows :

« 2° The Associations or Unions would benefit by adopting uniform standards

for light railways and by investigating types of rolling stock and locomotives (including electric equipment), which would be suitable to the most usual conditions of working.

« These investigations, which should be made in collaboration with manufacturing firms, would assist in mass production. »

— Adopted.

**The President.** (In French.) — We will pass on to the third paragraph.

**Mr. F. Level.** (In French.) — We may perhaps recall what Mr. Forges Davanzati has said. We must not say anything which may be detrimental to existing lines, and I do not think we ought to definitely recommend the use of transporter wagons. However, the section may state, that in certain cases which may perhaps be rare and under special circumstances, this use of transporter wagons may be considered, but it should not appear to recommend these as a general rule. The latter might cause great difficulties to the companies entailing considerable expense on the capital account and very heavy costs in many cases on account of the considerable weights to be hauled.

I have here a wording which may be examined and discussed: « It may be advisable, in certain special cases where the traffic justifies the same, for light railways to consider the system which consists of transporting standard gauge vehicles over other lines. It is well not to lose sight of this possibility in projecting new lines. »

**Mr. C. Sapin.** (In French.) — The Berne Congress in 1910 already discussed this question. It was recognised that these cases were very rare. Would

it not be as well to ask the secretariat to turn up the Berne discussion?

Do not let us pass a resolution of such a general character, which goes beyond this.

As regards the question of tank wagons, we have none on our railway.

**Mr. F. Level.** (In French.) — We have deleted the words « Tank wagons ».

**A Delegate.** (In French.) — I would call attention to the very serious inconveniences which there is in adopting arrangements which result in increasing the cost of constructing or operating light railways.

Allow me to draw attention to two facts.

In Italy they have an annual deficit of 135 millions.

In Spain there is an act dating from 1908 which authorises a group of 7 500 miles of light railways.

In fourteen years they have not constructed 620 miles by reason of the high cost of construction and difficulty in operation.

Any schemes which you may have which result in increasing the expenses of working and construction renders it still more difficult to construct lines like these.

There is the question of rails, locomotives, gradients, etc. I strongly urge that all this is omitted.

**Mr. F. Level.** (In French.) — I quite agree with this view. The third paragraph of the final summary might be deleted. Do you agree with this Mr. President?

**The President.** (In French.) — It is proposed to delete this third paragraph, that is to say, not to mention these transporter wagons which are costly and



which are I think a complication, and a scheme which in practice is only used in exceptional circumstances.

I quite agree with this view and pro-

pose that we should delete entirely the third paragraph, if the reporter does not object to doing so.

— This proposal was adopted.

## DISCUSSION AT THE GENERAL MEETING

Meeting held on 27 April 1922 (afternoon).

Mr. R. DE CORNÉ, HONORARY VICE-PRESIDENT, IN THE CHAIR.

GENERAL SECRETARIES : Mr. J. VERDEYEN; Mr. E. FRANZA; Sir HENRY FOWLER.

ASSISTANT GENERAL SECRETARY : Mr. N. GIOVENE.

Sir Henry Fowler, *general secretary*, read the

### Report of the 5<sup>th</sup> section.

(See *Daily Journal of the session*, No. 3, p. 5.)

« The reporter Mr. C. GAVIRAGHI summarised his views on the question, after which, on the invitation of the PRESIDENT, a discussion ensued on the subject and the conclusions submitted.

« Mr. LANZEROTTI (*Italian Government*) remarked that in addition to lines of 60 per 1 000 maximum gradient, there are adhesion lines of as much as 80 per 1 000, worked electrically without any difficulty.

« He added that it would be well to consider also the standardisation of gauge.

« THE PRESIDENT said that this question was connected with that of standardisation of rolling stock.

### « Motion.

« Mr. BIRAGHI (*Italian State*) made some general observations relating to the

preliminary consultations necessary to obtain reports.

« He pointed out that the majority of light railway companies have a mileage of less than 100 km. (62 miles) which prevents their becoming members of the International Association.

« Still it would in many cases be interesting to collect from them information which might often be useful for longer lines.

« He proposed that they pass a resolution to the effect that the Associations of each country should in future be requested, either by the Permanent Commission or by the reporter to consult their members and communicate a summary of their replies.

« Mr. F. LEVEL (*principal secretary*) said that in his capacity of president of the French Union he entirely agreed with this idea.

« THE PRESIDENT said that he would communicate this resolution to the Executive Committee, asking them to give it full consideration.

« *Discussion proper.*

« Mr. DE SOUZA (*Portuguese Government*) explained the process of development in Portugal; on the question of gauge, he strongly favoured a standardisation which would more easily allow the completion of their programme.

« Mr. FORGES DAVANZATI (*Italian Federation of Transport*) called the attention of the section to the proposed summary, the wording of which should not in any case be contrary to the interests of lines already in operation, by involving them in expenditure which they could not meet.

« Mr. F. LEVEL said that agreeing with the previous speaker he had drafted a resolution No. 1, which seemed to him to meet the views expressed; he read the draft to the section, and after discussion in which Messrs. C. SAPIN (*Chemins de fer d'intérêt local de l'Yonne, France*), FORBES (*County Donegal Joint Committee*), DE SOUZA, TSANG OU (*Chinese Government*) and MARGUERAT (*Viège-Zermatt Railway*) took part, the resolution was put by the President and adopted.

« THE PRESIDENT enquired if there were any remarks on the second paragraph of the summary.

« Mr. FORGES DAVANZATI proposed a wording which would bring it into conformity with the first paragraph.

« The text was adopted, with an addition suggested by the PRESIDENT and Mr. MARGUERAT, with the object of mak-

ing it clear that standardisation should include electric equipments.

« After discussion in which Messrs. F. LEVEL, C. SAPIN, SUSS (*Madrid, Saragossa & Alicante*), NATOLI and GHISI (*Circumetnea Railway*) took part, and a statement by the REPORTER that he agreed, it was decided, on the proposal of the PRESIDENT, to omit the third resolution.

« The section accordingly decided to submit to the general meeting the following summary. »

The President. — This is the

Final summary.

« 1° Standardisation of type for light  
« railway is recommended and should be  
« provided for by law in all countries in  
« the case of new lines : the legal pro-  
« posal being considered and presented  
« by the Associations or Unions of Com-  
« panies concerned in each country;

« 2° The Associations or Unions would  
« benefit by adopting uniform standards  
« for light railways and by investigating  
« types of rolling stock and locomotives  
« (including electric equipment), which  
« would be suitable to the most usual  
« conditions of working.

« These investigations, which should  
« be made in collaboration with man-  
« ufacturing firms, would assist in mass  
« production. »

— The general meeting ratified this summary.

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OPERATION OF LIGHT RAILWAYS. WORKING RULES AND REGULATIONS.

*General simplifications to be considered in the operation of light railways. Special methods for collecting fares; issue of tickets at booking-offices, before starting; issue on the trains; different types of tickets; auditing systems.*

Preliminary documents.

Report, by Mr. F. LEVEL. (See English edition of the *Bulletin* of October 1921, p. 1471, or separate issue [with red cover] No. 34.)

Special reporter : Mr. F. LEVEL. (See English edition of the *Bulletin* of April 1922, p. 714.)

SECTIONAL DISCUSSION

Meeting held on 20 April 1922 (morning).

Mr. F. TAJANI, PRESIDENT, IN THE CHAIR.

The President. (In French.) — I now call upon Mr. F. Level.

Mr. F. Level, reporter. (In French.) — Gentlemen, when I accepted the duties of reporter, I was thoroughly aware of the unthankfulness of the task I had accepted, because it involved discussing questions with which we are all familiar and asking you to go over ground we have already explored for ages.

The question had already been prepared in view of the Congress which was to have been held in Berlin in 1915, and when it was revived and settled that the Congress was to be held at Rome, I asked the Permanent Commission to take

into account the considerable changes which followed the war, and to see if it were not possible to so alter the questionnaire that it might be comprehensive enough to include subjects that would be of value to all of us, that is to say, as regards the means that should be adopted in general for the operation of light railways.

My efforts were unsuccessful, as I was told to keep within the limits of the questionnaire which had been decided upon, and this is why I found it impossible to do better, as I have had to deal with a subject which at the present time is no longer of absorbing interest.

According to custom, however, let us



quickly deal with the questions that have been put forward, and if our esteemed President sees no objection, we might suggest, in the discussion, means of alleviating the economical crisis from which light railways are suffering at the present time.

*(Mr. Level then read the summary of his report, which was published in the April 1922 number of the Bulletin, and continued as follows):*

Gentlemen, I have now come to the end of what could be said within the strict limit of the questions given, and I hope you will permit me to say once again how sorry I am that an opportunity has not been given me to deal with other points which I think are of greater importance. I discreetly alluded to this in my report, when I said that the discussion at the meeting might extend beyond the limits that had been laid down, and this had special reference to the situation, which we may say companies in the whole world are having to face since the war. The economical conditions have so changed, that even most of those lines which were running in perfectly healthy conditions before the war, now find themselves in a very precarious condition. I am speaking more particularly as regards my own country, because I have no very precise information as regards others, but it is evident that in the interest of all, the President should kindly allow a discussion to take place on this subject, which need not necessarily be recorded, but from which we all may profit.

It would be especially interesting to know to what extent the authorities in the various countries have helped the lines out of the terrible financial difficulties in which the war has placed them. In France, it was known that in many

cases, at least for the time being, it was almost impossible for certain companies to continue running without a new contract being made with the « Régie » <sup>(1)</sup>. The term « Régie » is known in all countries, so I have no need to enlarge on that subject, for as a matter of fact we are all working for the grantors.

The idea in France has been to make the « Régie » as interested as possible in these concerns, that is to say, that the grantee should have a real incentive in making the undertaking a success. It was therefore necessary on the one hand to allow the grantee to have an interest in the gross receipts, and on the other, I will not say in the net profit, because as a rule there is none, but in the reduction of expenditure.

All formulæ have been considered from this point of view. Either co-efficients for expenditure have been fixed, or else bonuses on receipts, or a bonus on the difference between the receipts and a portion of the expenditure, which varied according to the different lines. In short, in every case discussion was allowed between the grantors and the grantees.

To attain this end, the French Government consented to legislate on the subject, with the desire that the pre-war concessions should be revised.

On the other hand, the public authorities did not mean to be bound for too long a time, and in 1916 a law was passed which allowed all the conceding conventions to be modified by coming to a simple understanding with the conceding power (the Prefect, if it concerned a Department, or the municipality, if it concerned a town) and by coming to this simple understanding with respect to the suggested modification and after

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(1) Government authorities.

examination by the Minister of Public Works, was made legal by a Decree of the President of the Republic.

This was settled fairly quickly.

A law passed on the 22 October 1919 replacing that of 1916 was put into force at once, provisionally, without even waiting for the publication of the Decree.

The law states that the agreements may only last for a maximum period ending on the 31 December 1925. Already efforts are being made to extend this period, which apparently will have to be done, if in the meantime no other legislation is introduced which would allow our undertakings to be carried on.

In any case, that is the method by which the situation has often had to be faced in France, and which I think applies to all countries. The « Régie » has often had to be appealed to. This is of course not the only method of dealing with the question, and many increases in rates have been allowed up to as much as 100 to 250 %, and even more.

Each particular case has received consideration and been discussed between the company interested and the grantors. I may say that in the majority of cases the latter left it to the companies to fix the increase of rates as they thought best and according to existing conditions.

I need not tell you, as you are all thoroughly acquainted with the subject, how absolutely necessary it was to act prudently as regards this question of increasing rates.

We soon found that the latter might become prohibitive in certain cases.

As regards this, after we had fixed increases which applied generally to all the rates, it became necessary to quickly relieve the situation by introducing special rates for particular cases, and all arrangements were looked at from a broad point of view.

If any of our foreign colleagues have the opportunity of reading the French Official Journal, they will see that in almost every number there is some reference to one of these provisional conventions which I have just alluded to.

Perhaps, when the President opens the discussion, you will inform us, from this point of view, what is taking place in your own countries, and if you will, I feel sure that much valuable information will be gleaned, and that in the interests of our business the discussion which is to take place will be an extremely profitable one.

It is usual at our Congresses to suggest a final summary, and you may have noticed that in my short report I have not done this, as it was difficult to formulate anything precise on a subject which in itself is not absolutely clear.

Though it is easy to summarise a technical question, it is very difficult to do so with one like this, I therefore thought that by referring as discreetly as possible to the particulars I have mentioned which touch on the question, we could perhaps in the text we shall present to the General Meeting, point out the need we all have for assistance on the subject, and it is in this spirit that I have drawn up the final summary which I will now read. I have no wish that my version should be accepted as it is, and if it is altered in the discussion, I should only be too pleased and delighted.

« *First paragraph.* — It seems that the limited traffic for which light railways have been constructed and equipped is due to the nature of their work, and that this alone should be taken into consideration when it is to be decided whether any particular line, as far as the methods of operating are concerned, should enter

the category called, in certain countries, « light railways ».

A very large number of railways, in fact, replied that they had no light railways. This is because no agreement has ever been come to at the Congresses as to what should really be meant by the expression « light railways ». It has been adopted by the International Association, but is not accepted everywhere.

India for instance replied that they could not reply to the question because they had no light railways.

Since, at the different Congresses, this question has been brought forward, but no decision come to concerning it, I wonder if it would not be possible to once and for all decide what is really meant by the term « light railway ».

It is quite possible to have light railways running in conjunction with the larger lines, forming the principal or secondary arteries belonging to either a large or small railway system.

If we could manage to find a better definition for what is really meant by the term, we should obtain in the future fuller and more complete information relating to the subject.

Allow me, Gentlemen, to read again the first paragraph of my final summary. (*Mr. Level then read again this paragraph which he proposes should be accepted by the section.*)

I now arrive at the *second paragraph*, which is necessarily rather long in order to incorporate the questions to which I have alluded :

« In the critical period through which we are now passing with these undertakings, it is indispensable that every means should be adopted to allow them to be carried on.

« In order to accomplish this, and

even outside any direct financial assistance, so necessary to-day in most cases, it is advisable to request the grantors to help in every possible way, as far as administration is concerned, with the object of reducing expenditure to a minimum.

« For this reason, for instance, it is recommended that the suggestions advanced by the grantees advising the reduction of the number of classes offered to travellers should be agreed to.

« With the same object in view, the attention of the Public Authorities should be drawn to the moral and financial benefit, which would accrue by allowing the Companies to deal with fraud, especially by the method of imposing a substantial and immediate excess charge. »

Though it does not quite form part of the question, we should I think profit by the opportunity that has been given us to point this out so that it may be known to all those countries which are represented here that we are of opinion that financial help from the grantors is indispensable.

**The President.** (In Italian.) — I thank Mr. Level for the interest he has been able to give to the question which he has dealt with so clearly.

In order to develop his thesis, he has not lost himself in questions of detail at a time when the predominant question is the crisis through which light railways are passing. On the contrary, he wished, and for this I thank him in the name of you all, to bring into evidence this critical period which is common to all countries as far as light railways are concerned, the latter being mostly worked by private companies, though some belong to the large railway systems.

By widening a little the scope of the



question, Mr. Level desired, and I wish to repeat it, to show how necessary it is to keep us informed of the arrangements made by the governments in different countries that are favourable to the working of light railways. He then proposed that a hint might be given that the grantors, apart from any direct financial assistance, should help, by means of suitable legislation, to simplify operating and make alterations, such as reducing the number of classes, which would allow the economical situation to be improved.

Mr. Forges Davanzati, Transport Federation, Italy. — I am thoroughly at one with what Mr. Level has said and with his suggestions. I congratulate him on his idea, that it was better to somewhat overstep the restrictions to which he was confined when writing his report. He has overstepped them, and I am glad to take advantage of his invitation to say what has taken place in other countries.

It is up to us, Italians, to be the first to reply, because, and I think my colleagues share my views, we now admit that the greatest difficulties we have to contend with in adopting a method of working that would reduce expenditure to a minimum, arise from the quite recent legislative enactments, and particularly as regards the application of them.

When reading Mr. Level's paper and taking into account the problem of reducing as much as possible the net cost of transport, I wondered if the greatest obstacle in the way was not, at least as far as Italy is concerned, the legislation on the subject itself and the methods of applying it.

How many times on a narrow gauge railway with small traffic have we found it impossible to ask any one man to

fulfil several duties, even when the traffic would easily have allowed it! How many times have we been unable to say to the pointsman: « Look after the shunting of the small amount of goods traffic which occurs at this place. » How often have we had to be worried at more important stations so that the work of the lampman should not be mixed up with that of the pointsman!

With you, Gentlemen, or at least with my Italian colleagues (and I should be very glad to know what takes place in this respect in other countries) it is not necessary to dwell on this point.

You no doubt remember that the fundamental Italian law of 1865 relating to railways contained a very wisely inspired clause which stipulated that the State kept aloof from the employment of any of the personnel, which matter should absolutely and exclusively be in the railway companies' own hands.

You also know that our legislature, after enquiries abroad, found the means, as regards the law of 1896 relating to light railways, to make the conditions with regard to the latter still more favourable. I think, however, you also know that all that happened afterwards concerning the legal status of the workmen, their wages, disciplinary measures, etc., though right up to a certain point, was spoilt because the State interfered with what was exclusively the business of the companies, and which has now become the business of the State. I am referring of course to the utilisation of workmen who are only partly paid by the Government.

Putting it another way, I should like to influence you, and I am sure the Italian delegates will agree with me, to find means to pass a motion which I am going to read to you, expressing the idea that all State intervention, and particu-

larly that of the Government, should be regarded as prejudicial as far as determining the limitation and nature of the work expected from employees is concerned. I have no desire to upset what has been done as regards fixing the legal status of the workmen or interfere with their wages, but only to prevent the actual extreme state of affairs from happening which is as prejudicial to the companies as it is to the State which has interfered.

This is the proposed motion :

« The Congress is of opinion that any interference by the legislature or State organisations is prejudicial as far as regulating the employment of railway workmen is concerned, and especially as regards those on light railways. It considers that this should be left to the free initiative of the companies responsible for working them.

« The controlling right which the State exercises in order to guarantee the safety and regularity of operating is sufficient to give it a right to intervene, with veto, in those quite exceptional cases, when sufficient care has not been exercised in the choice of their workmen to secure a regular and safe method of working which alone can be of public interest.

« For these reasons, the Congress is of opinion that in those cases where legal provisions exist which concern the status of railwaymen, these provisions are only applicable as far as the principal function of each employee is concerned, the possibility of entrusting to these same employees other duties of a different nature being allowed, this being in the interest of the State itself, which, especially at the present time, participates in the economical success of the operating company. »

The President. (In Italian.) — I de-

sire to call the attention of the section to the fact that such a radical summary could not be agreed to at a full meeting. As you are aware, we are an International Association formed especially with the object of dealing with technical matters. We have power to put forward suggestions of this kind, but I think that it should be done with a certain amount of discretion, and therefore beg those having any remarks to make, to bear in mind that it is somewhat difficult for an Association like ours to state at a full meeting truths like those our colleague, Mr. Forges Davanzati, has advanced so clearly and so well.

Mr. F. Level. (In French.) — I should like to ask a fundamental question. Are you attacking in any way the eight-hour law?

Mr. Forges Davanzati. (In French.) — No, no, I only refer to regulating the employment of labour.

Mr. Biraghi, Italian Local Section. (In Italian.) — I trust my Italian colleagues will excuse me, but I think it more practical to speak directly in French, and all the more so because what I wish to say is perfectly familiar to them, and that they can follow me quite as easily in that language.

*The speaker continued in French, as follows :*

Mr. Level has given us a report which he says lies just outside the limits of the main question, but from what he said we feel extremely sorry that he was unable to overstep it still further.

I therefore suggest that at the next Congress, Mr. Level will be able to give us a more complete statement of that part of the question which he has had to omit.

In his report he specially dealt with

two questions only, and asked with regard to them what had been done in other countries, especially with that dealing with the number of classes. Let us consider this point first. In Italy we have the law of 1906 to which was added the provision of 1907 which established the principle that light railways should be provided with two classes.

There are, however, light railways which have more than two classes, and I do not know any that have only one, though several have three. These are perhaps light railways which have found it necessary to have three classes on account of a special traffic.

As regards the eleventh question in Mr. Level's questionnaire which relates to the practicability of fining a passenger without a ticket, two methods are adopted in Italy.

The fines which the companies have the right to inflict on those found travelling irregularly are fixed in the rates. A more decisive step was, however, taken as regards this matter. In 1921 a Decree was issued which even included country tramways and provided for a fine to be inflicted by a judge, but which could also be enforced with certain restrictions by the officials of either the Company or the Government. If a traveller is found without a ticket in a tram, the servants of the Company or certain Government officials are empowered to impose a fine, which if not paid at once, rendered the passenger liable to be summoned.

Mr. Level asked what had been done to obtain Government assistance during the critical period which our industry has had to go through since the war.

In Italy, legal restrictions by means of a law of special character were also put into force. First of all we had the law of 1906 and then that of 1912, but

in 1919 stricter regulations were made through the medium of a Decree.

These regulations applied not only to the general and social point of view, but also to economics.

Through this we have railways whose staff is paid at the same rate as more important ones.

State intervention has been arranged in two ways, one having reference to the increase in rates, and the other to the subsidies allowed by the State. A very complicated system was thus established.

A sort of common fund was built up from which the State took money in order to grant subsidies.

This formed a sort of mutual aid society, but as the surplus receipts had to be handed over to the common funds, it created a very grave situation.

A Decree issued in January 1922 once more gave a sort of relief to the companies, the urban tramways being made distinctly separate from the light railways and the suburban tramways.

A sum of 135 million francs per year was fixed to be distributed between the light railways and the intercommunal tramways companies, according to the deficit in their balance sheets. This was distributed by a committee in which, to the honour of our Government, manufacturers were represented, and as the Government had not interest in this amount which, to sum up, no longer belonged to it, it accepted to a large extent their suggestions.

This gave them a certain liberty of action, and to have right in the distribution of this sum, the companies must show that they were making reductions in the cost of operating or suitably increasing the rates from the manufacturers point of view.

In our country, during the war, the revision of the acts of concession was



also taken into consideration, but only as regards railways that had not yet started to work.

The financial plans were revised, and an effort was made to extend the idea to railways already in operation.

A Government Commission thoroughly studied the question, but unfortunately its recommendations were not accepted, and the question was shelved.

A concession is a contract which lasts for some time and is such that Government intervention on the one hand should be upheld, and on the other, the obligation of the party to whom the concession is made to satisfy the conditions of the agreement should be rigidly observed.

In acts of concession, a clause should be inserted allowing alterations to be made according to any new conditions that may unexpectedly arise.

I will now say a few words regarding the two resolutions proposed by Mr. Level.

As regards the first, it would I think be more practical to propose to the General Meeting, not only a recommendation, but also an indication of how the new classification of light railways should be drawn up. It is only by doing this that we shall be able to effectively solve the question.

I have no special name to suggest; railways of local interest, secondary railways, etc., might be used, but I should like to add a phrase pointing out that Government assistance is necessary without, however, any interference on its part with the individual liberty of the company working the railway as far as book-keeping, statistics, etc., are concerned.

Mr. Vallecchi, *secretary*. (In Italian, French and English.) — I should like to speak to my Italian colleagues in

agreement with Mr. Biraghi on a question Mr. Level has so ably treated, that is to say, the reduction of the number of classes on light railways. This is a very important matter as far as tramways are concerned. We have concessions of a somewhat ancient date which insist on two classes for tramways, even these of urban lines, *viz.*, first and second. Now experience has taught us that the « carriage for everybody » as one of our writers calls it, does not allow us to have a first class, whilst on the other hand, concessions are necessary in special cases. My Company, for instance, who has just commenced working the urban tramways of Taranto, is precisely having to face these conditions. It was obliged to instal first class accommodation on passenger coaches, which involved an increased cost in construction, complications in accounts, and other difficulties. Though the public showed a marked preference for one class only, it is forced to maintain two. As a general rule, whenever first class is specified in the agreement, there is always difficulty in getting it abolished.

As long as tramways are considered to belong to our family of light railways, I should like, if possible, that when reference is made to the reduction of classes, it may be remembered that in Italy it is especially tramways which stand in most need of it.

The President. (In Italian.) — I should point out to Mr. Vallecchi that it is difficult to include a question of tramways in a discussion which concerns railways.

We should occupy ourselves with light railways and not tramways. It is true that in Italy we give the name of tramway to those railways which elsewhere, in Belgium for instance, go under the

name of light railways or railways of local interest.

The case mentioned by Mr. Vallecchi, for instance, refers to an urban tramway about which it would be difficult to refer to in our recommendations.

Mr. Caufriez, *vice-president*. (In French.) — As the President has so well pointed out, it appears impossible to include tramways in this discussion.

There is a Union in existence which places railways of local interest and tramways in one group, and it seems better to leave to this Union the care of dealing with the subject.

Having said this, I will now refer to Mr. Level's report.

I have much pleasure in joining in the praises which have been given him for his report, but I must draw a line as far as the Belgian Vicinaux Railways are concerned.

In Belgium, light railways are called « vicinaux » railways, and their organization has been explained by my predecessor, Mr. de Burlet, in past sessions of the Congress. I will therefore only say a few words regarding them, as a reminder.

Nearly all the Belgian light railways have been conceded to the « Société nationale des chemins de fer vicinaux ».

Of about 2 800 miles which have been conceded, this Company controls nearly 2 700, distributed into about 170 lines each of which, from a financial point of view, is a distinct undertaking.

Mr. Level spoke of the necessity of financial assistance from the State in order to relieve the consequences of the crisis due to the war.

More than half of the vicinal railway system in Belgium was destroyed, and of the 2 700 miles, only about 1 100 miles remained at the end of the war; the re-

mainder had either been systematically pulled up, destroyed or seriously damaged, due to the war.

Reconstruction went on fairly rapidly, thanks to Government assistance, but this assistance only consisted in advancing to the Company the capital necessary for this reconstruction and which was placed to the account of « War damage » until a decision could be come to by the Courts to fix the value of this damage.

The President. (In French.) — But what as regards operating?

Mr. Caufriez. (In French.) — As far as operating is concerned, it was formerly the custom that all vicinal lines conceded to the « Société Nationale » should be leased by it to private companies. After the war, three quarters of these companies renounced their contracts, taking advantage of a new law that had been issued. We were therefore obliged to take over again the working of the greater part of these lines.

About 600 miles are still worked by private companies, and these are mostly the best lines.

The remaining 2 100 miles are in the hands of the « Société Nationale », the shares of which are held by the State, the provinces and the communes; these having no other obligation but to work off the value of the shares that had been subscribed for. They have therefore, with this exception, no other subvention to provide us with.

As far as running the lines is concerned, we have so far been able to tide over our difficulties without government intervention, and hope to continue to do so in the future.

As with all transport undertakings in every country, we have, however, been able to obtain fairly large increases

in rates (rising to 150 % in certain cases).

The company had to draw on its reserve fund for the somewhat considerable losses made by certain of the lines which it worked (I said just now that as far as finance was concerned, each line was considered separately, that is to say, that the losses contracted by one of them are not compensated for by the profits made by another), and in spite of this, was able to distribute fairly good dividends to a rather large number of other lines.

We are hoping that the situation will improve in 1922, and that we shall in the future retrieve the losses we have had to face and may still have to face as far as certain lines are concerned.

It would therefore be difficult for us, as suggested by Mr. Level, to request assistance from the government on account of the financial crisis to which he alluded, and I repeat that we managed to get out of our difficulties without having to call on it for help with respect to the losses that occurred in working several of our lines.

As regards classes, the Belgian State Railways have three. Efforts have been made to reduce this number to two, but finally it was decided to keep to the three classes. « Vicinal » railways have only two classes.

Mr. Lanzerotti, Ministry of Public Works, Italy. (In Italian.) — I should like to add a few words in reference to the proposals made by our esteemed colleague, Mr. Forges Davanzati, and particularly as regards the intervention, or to speak more correctly, the non-intervention of the government.

My opinion is that this intervention should take place in all our economical, social and political work.

It is true, however, that we have met here specially to deal with technical matters, but we have also come to the point of having to consider economical questions, and it is generally easy to pass from the latter to those relating to politics, which we are now very nearly doing. Thus, the proposal of Mr. Forges Davanzati brings us very close to it, since he has even appealed to our colleague, Mr. Stefini, who is a deputy, to agree with his proposal as regards government intervention.

I think it my duty to say this, and all the more so that I perceive a certain amount of contradiction in what on the one hand the reporter is asking for, *viz.*, government intervention as far as finance is concerned, in order to face the crisis from which railway undertakings are suffering, whilst on the other hand, if Mr. Forges Davanzati's proposal were accepted, we should be asking the government to take no further interest in administrative affairs or regulations concerning the staff which constitutes one branch of railway administration. It seems to me therefore that this is contradictory. When the government has interfered (and I think this has happened in nearly all countries), it has not acted on its own initiative, but because it was obliged to do, and it is its duty to intervene when situations arise amongst the populace, which are in the public interest to clear up.

All our railway workmen belong to unions, and professional unions are living facts which have to be taken into account.

In my humble opinion, they are a useful and necessary institution and should be considered as an advantage to our whole civil life, our country, our communes, and ourselves.

These organisations of professional



unions are the building up cells of a new social life which is also partly the product of the technical development which has arisen in these later times and to which we ourselves have contributed.

In conclusion, I may say that when we meet together as engineers, we also form professional associations, and by so doing, make a syndicalistic organization. I think that these professional organizations offer great advantages when they are properly managed, and when they confine themselves to trying to get the maximum welfare for the community without interfering with politics or the administration in order to gain some particular end.

It is possible that these unions, having lost sight of the supreme object of working for the good of the country, have little by little crept away from the true path in order to push forward some pet scheme.

A grave crisis is now before us, for which they are partly responsible, because it is certain that these syndicalistic associations brought about government intervention on several occasions, or rather forced it to intervene through mixing themselves up in private activities.

I believe, however, that this is only one of the causes of the crisis which at present afflict our companies.

Let us put it that it is one of the principal causes, though there are others which I will not stop to discuss, but simply say that the question submitted by the reporter as a secondary question, is in reality one of the first importance.

I quite agree with the summary he has drawn up, and also in a general way to the proposal of Mr. Forges Davanzati, except as far as his real meaning is concerned, which appears to me of a too

radical nature and not to harmonise with the actual situation.

**The President.** (In Italian.) — Will you please try and keep within the limits of the question.

**Mr. Lanzerotti.** (In Italian.) — I am trying, Mr. President, but I find it rather difficult.

**The President.** (In Italian.) — We have already drifted too far from the main question and are trying to do too much in beginning a discussion which does not form part of our programme.

**Mr. Lanzerotti.** (In Italian.) — Even the discussion becomes much too difficult if we leave the ground to which we should keep.

I should like to point out, however, that without losing myself in a political discussion, which would be quite out of place here, there are certain improvements of a technical nature which we could usefully take into consideration in order to lessen the effects of this crisis which is felt by our light railway undertakings.

I am, for instance, of opinion that several of the latter working in flat countries might profitably study the adoption of electric traction by means of accumulators. We once even stopped working a line for some time, and this might be the means of saving the situation in many other cases.

**The President.** (In Italian.) — The question under consideration is particularly reserved for special methods of traction on light railways.

**Mr. Lanzerotti.** (In Italian.) — We will confine ourselves therefore to the discussion of this question.

I think the crisis from which our companies are suffering is only a passing

one, and in expressing the wish that the government should intervene, I equally desire that the capitalistic organisations working the railways should find a means of exercising an influence over their workmen so as to bring them to understand that it is also to their interest that the present situation of the companies should improve and that it would be better to forego some of the concessions made to them, such as the eight-hour day especially, which has made railway working so very costly and difficult.

I think that by properly explaining to our workmen that it is to their interest that these concessions should be held back until a more favourable moment occurs, we should obtain their assistance in improving the condition in which these undertakings are now in.

**Mr. Barocio**, Ministry of Public Works, Mexico. — There are many light railways or secondary lines in Mexico. Some are considered of national importance, but others which serve far away parts of the country are only of local interest. All the principal lines have first and second classes, and the tickets as a rule are issued at the stations.

These are inspected in the usual way, and any fines that may be imposed amount to about 20 to 25 % of the value of the ticket, calculated from the last to the following station.

Secondary lines have generally only one class.

Some trains, however, are provided with first and second classes, but the former are not considered really necessary.

In Mexico, there is a society amongst the workmen, but it is rare that the government has to interfere with the relations between the company and its staff.

**Mr. Forges Davanzati.** (In French.) — Gentlemen, the desire to formulate a summary as soon as possible has decided me to shorten my proposed motion, and I will now read the form which I should like it to take. I confine myself to stating the principle only, which is as follows :

« The Congress is of opinion that the intervention by legislators and the State, as far as determining the kind of work the men should do in relation to the classification of their duties, is prejudicial to a wise economy in transport, especially where light railways are concerned, and declares that this matter should be left to the judgment of those responsible for the management of the undertakings. »

My reading of this motion should convince Mr. Lanzerotti that in no way do I touch the questions he referred to, for I have considered the matter from one point of view only. State intervention as regards jurisdiction or punishments, etc., has not been mentioned. No, I only say that the State should not decide how the managers of the companies are to make use of their workmen who are dependent upon them; they should be left quite free in this respect to act according to their best judgment.

This is a point which directly concerns economy in transport, and that is what I wished to make clear.

According to article 1 of its Statutes, the object of the International Association is to favour railway progress, and I ask now if it does so or not. If it does, I shall be glad to think we all agree, and then we shall be able to repeat this truism at the full meeting.

I have the honour to represent here a Transport Federation, and I should be

sorry if I did not do my duty on this occasion, at least I think that it is our duty to take this subject into consideration, and if not now, at the next session.

**Mr. de Souza**, Ministry of Commerce and Communications, Portugal. (In French.) — May I be allowed to speak?

**The President.** (In French.) — I call upon Mr. de Souza.

**Mr. de Souza.** (In French.) — I should like to give some particulars concerning my country relating to the final summary under discussion.

We began with narrow gauge railways without State intervention. Later on the State conceded us lines on which interest was guaranteed, but the mistake was made to specify that they should be run in the same way as the normal gauge lines, on which there are three classes. I was requested to suggest the types of rolling stock that were requisite for the narrow gauge State Railways.

The committee that was appointed recommended two classes only.

I am strongly of opinion that with all new concessions relating to light railways, the number of classes should be limited to two, and that the requests of existing companies to reduce the number of classes should receive favourable consideration. I might add that many people are sorry that there is not one class only, made a little more comfortable, but generally speaking two classes suffice for all purposes.

Most of the tickets are sold at the stations, but on some of the lines running in very populated districts where it is necessary to have many stops, the tickets are issued on the journey.

In certain cases, it would be difficult to impose fines, the only way being to have an effective control and allow a

percentage of the money collected to the inspectors.

According to the general rating regulations, travellers without tickets are liable to have to pay 25 % in excess of the fare.

As regards operating, endeavours are being made to simplify the situation as regards light railways.

Rates are much higher than before the war. Coal and other material are very much dearer now than formerly. On the other hand, we have to face claims from the staff on account of the higher cost of living.

I am asking for the number of classes to be reduced to two.

It is difficult to apply a general rule as regards fines.

**Mr. Marguerat**, Viège to Zermatt Railway, Switzerland. (In French.) — As a rule we have only two classes in Switzerland, with the exception of three or four narrow gauge railways, which may be classed with the larger railways. The high mountain lines usually have only one class.

In our country, the State, by means of a Decree, has authorised the companies to raise the rates. The exchange has done us a considerable amount of harm. Our rates are the highest in Europe, which is not an enviable position to be in, as far as our railways companies are concerned, and there is in consequence a growing tendency to reduce them.

The whole of the lines have not only failed to distribute any dividend to the shareholders, but have not even paid the coupons of the bonds. Nearly all the companies to-day are endeavouring to put the financial situation on a healthier footing, for which there are two methods: a « concordat » or a reduction of capital. Generally speaking the coupons of the



bonds which have not been paid off are converted into preference shares.

According to the law there must be a three quater majority of shareholders to pass a resolution, but often the shares are in the hands of unknown persons living abroad, and it is then very difficult to get a sufficiently large majority.

The State granted subsidies only on condition that the company furnished proof that it could find money nowhere else. When it proved that it was unable to get credit, it could obtain an advance in the form of a loan. The Confederation, however, would only supply half the sum required, and that on condition that the cantons and communes found the other half. There lay the great difficulty, and the State promulgated special laws.

We allow a workman over a certain age 80 day's holiday per annum; this is the maximum. The State fell in with the demands of the unions. Our Light Railway Association demanded a referendum, but we failed with the people. We are, however, going to try again and once more submit the question to the latter, when we hope to be more successful.

On the other hand, the State having to find funds for operating, thought it somewhat hard to have to supply a subsidy each year, and allowed a relaxation in the law relating to hours of work.

Thus, rack railways are empowered to increase their working hours to nine for all services.

On account of the competition from automobiles and other means of transport, we were allowed to leave level crossings unmanned in certain special cases. This was a great relief. Working a locomotive with one man only is another very important point.

In conclusion, I must say that I do not agree with Mr. Forges Davanzati's amendment; State intervention as proposed by him would be monstrous. I could not accept a motion which would have the appearance of being aimed to the Italian Government whose guests we are. I should be very sorry to see so drastic a suggestion agreed to, preferring a more general wording advising the State to see that the application of some of the social laws is less irksome.

**A Delegate.** (In French.) — We must not meddle with politics.

**Mr. Nagel,** Italian Organising Committee. (In Italian.) — I have asked to say a few words, because I think it right, before this long and interesting discussion is over, that the voice of an administration which has played the part of the accused at our meeting, should be heard. I have referred to the government administration to which I had the honour to belong until recently, and now may state that for the last few days I have been a free citizen. I may therefore be allowed to admit that in principle the legislation actually in force in Italy at the present time as regards railways is far from being perfect, and this we are all willing to admit. I was pleased, however, to hear from the remarks made by our Swiss colleague, Mr. Marguerat, that something similar has also taken place in other countries.

It should be taken into consideration that legislation, defective as it may be, has been evolved, at least partially, on account of urgent social circumstances, and that the defects which we know exist are perhaps only due to having had to yield to superior force. On the other hand, to reply to a remark made by the reporter, I beg to point out that this

legislation, at least in our country, has been applied as sensibly as possible, and that the present representatives of the Government Administration have tried to fall in with the views of the federations and not to put difficulties in their way so as to establish a control working in a friendly spirit always within the law and without any preconceived hostility.

Finally, I think that presenting a motion based on the lines drawn up by my friend, Mr. Forges Davanzati, even though in a much milder form than the one he suggests, could not easily be done to the General Meeting, and all the more so that it is not completely in accordance with the wording of the question on which Mr. Level has made so brilliant a report. I think that in order to summarise such a masterly report as that of Mr. Level, and the very thorough discussion that has followed it in our section, we should be able to arrive at a motion, which, including at the same time the conception of the reporter, lays stress on the necessity of getting out of the crisis in which our light railways, and probably those of the whole world, are suffering, in the best way possible.

The chief points in this motion should I think be as follows :

1° When necessary, financial assistance from the various governments; 2° all the latest and best technical improvements possible; 3° a certain liberty and elasticity in fixing rates; 4° all possible economies.

As regards economies, it would be possible to introduce in a very mild form as compared with that proposed by Mr. Forges Davanzati the following suggestion : grant to each company a greater liberty of action as regards the use it may make of its staff than it is allowed to do, by the regulations now in force.

**The President.** (In Italian.) — I now propose closing the discussion. The reporter will have the option of speaking again, and we will present our final summary tomorrow.

**Mr. Ottone,** National Society of Railways & Tramways, Italy. (In Italian.) — I do not think that the discussion has been sufficiently complete to be closed yet. We have been listening to an argument concerning certain happenings in the transport service, and the discussion which has just ended is in perfect agreement with the present state of affairs which perhaps did not exist when the list of questions was drawn up.

Without examining whether or not the suggestions made are practical, or considering if they should be submitted to the General Meeting, I am wondering if, after having touched on the principal question thanks to the speeches of Messrs. Forges Davanzati, Lanzerotti, Marguerat and Nagel, it is yet the right moment to close the discussion as suggested. There are still a large number of points which have not yet been even considered, and quite a series of ideas to which our colleague, Mr. Nagel, referred which are of interest to the great majority of our colleagues. This is why I think that this discussion may give us a subject for the next Congress, or else suggestions to put forward at the General Meeting after we have carefully studied the question.

In conclusion, I may say that we are faced with a new situation, I will not say created by the war, but one so changed since the war, that it is completely different from that which existed at the last Congress. It is quite a new state of affairs, so why should we confine ourselves to speaking about tickets, or

about stations, why should we confine ourselves to such questions?

The problems which interest us most are those concerning State intervention, wages, working hours and rates.

Let us deal with these questions, for I think the section will be doing useful work in further discussing them thoroughly.

Mr. F. Level. (In French.) — Gentlemen, I have listened attentively, and followed as well as I could, the speakers in Italian, and have taken a few notes during the speeches that have been made.

As regards finding a comprehensive title for light railways, I should remind you that this is a very difficult question, as it is quite impossible to suggest a term which would be accepted by all countries.

On the one hand, the expression « lines of local interest » or « lignes économi-ques » is not in use everywhere, and on the other hand the words « secondary lines » has not the same meaning in all countries. In France, for instance, the term « secondary lines » is given both to lines of general importance as well as to lines of local importance.

This is why we are up against the impossibility of finding a term which would have an identical meaning in all countries, and consequently we must (which is generally the case at International Congresses) be content with a vagueness which attempts to embrace all possible denominations.

Mr. Biraghi said that some protest should be made in the final summary against the obstacles a government might bring forward to impede the work of the guarantors.

I may tell Mr. Nagel that it is the intention of no one here to say anything discourteous of any of the governments

to which we belong, and still less as regards the Italian Government which is treating us with a hospitality that is remarkable. We had an example at the banquet yesterday which was so generously offered to us, and we should be ungrateful indeed if we did not show our appreciation of all the kindness we have received in Italy.

Really at the bottom there are no great difficulties to get over. I feel quite confused to see how well you followed me, in the evasion, if I may so call it, that I made from the lines which I was supposed to follow. (*Laughter.*) You exceeded all my expectations. (*Renewed laughter.*) I felt certain beforehand that you would understand that the direction on which I endeavoured to lead the discussion would be more interesting than that which was given to us to deal with. Of course, however, we should keep to the question, and that is the point where it is necessary to distinguish between the motion and the summary.

If we went to the General Meeting with a text so precise, a representative of a company or a government might say : « The question does not conform to the order of the day, and we cannot possibly accept it », and we should surely fail.

Now we have strong reasons that our summaries should not be sent back, and to prevent this, we must make sure that they cannot be considered as overstepping the limits laid down by the order of the day to any great extent.

This motion consists of two lines for question XVIII : « Operation of light railways; working rules and regulations. »

This seems to cover a great deal of ground.

The subject, however, is shortened by the sub-title which states : « General sim-



plifications to be considered in the operation of light railways, etc. »

That is why in my proposed final summary I kept to terms which were extremely vague.

I referred, as far as it seemed to me reasonable, to the difficulties with which we were faced.

I did not wish to appear as if I wanted to criticise anything. Mr. Forges Davanzati proposed a motion with which I am sure we all agree in principle, but here again it concerns a question of form.

May we therefore, as the question does not conform to the motion, accept his way of putting it? I do not think so.

You will agree with Messrs. Nagel, Marguerat and Ottone that it is advisable to arrive at a summary which can be accepted at the General Meeting.

If it only depended on ourselves, we should quite easily agree to a precisely worded summary; between ourselves it would not be difficult, for we are victims together. (*Laughter.*) The difficulty lies in getting it accepted by the General Meeting.

I propose therefore to bring the discussion to a close and nominate a committee composed of very few members, the President, the reporter, and two or three colleagues.

This committee will examine the matter and propose a final summary taking into account my remarks and those which have been made by other members, and will submit it to the section at the beginning of the tomorrow morning's meeting.

As I have already said, it is useless to continue the discussion, because we are all practically of the same opinion.

I should, however, like to reply to Mr. Caufriez, who stated that financial assistance from the State was not required in Belgium, and so he added it was

useless for them to be party to such a request.

Well my dear colleague, let me tell you that as far as this is concerned, you are amongst the happy ones of this earth (*Laughter*), and under these conditions, I hope you will give a helping hand to unfortunate victims like ourselves (*Renewed laughter*). You have everything you want, which is all very nice, so you do not need to ask for financial assistance from your Government. Our wishes in this respect, however can in no way inconvenience you.

It has been said that the discussion appeared to be becoming political in its nature. We are, however, not touching politics, but political economy, and we are looking at the situation which has been forced upon us and trying to find out a solution by which we may hope to escape from it.

The President. (In French.) — You propose then that the discussion should be closed and a committee nominated to study and formulate the final summary to be submitted to the section and to the General Meeting. I put this proposal of Mr. Level's to the vote. Does anyone disagree? (*No, no.*) The closure was then applied.

The committee might be made up of the President, Mr. F. Level, Mr. Forges Davanzati and Mr. Nagel, who would represent the opposition. (*Laughter.*)

Mr. Nagel. (In French.) — Not the opposition, you mean the accused. (*Renewed laughter.*)

Mr. Biraghi. (In French.) — The committee ought to be international.

Mr. Forges Davanzati. (In French.) — I prefer to be excused from being a member, there is therefore a vacant place.

**Mr. F. Level.** (In French.) — Let us nominate Mr. Thonet or Mr. Marguerat. posed of, the President and Messrs. Level, Marguerat, Nagel and Biraghi. (*Agreed.*)

**The President.** (In French.) — I propose that the committee should be composed of, the President and Messrs. Level, Marguerat, Nagel and Biraghi. (*Agreed.*) We will proceed with our business tomorrow morning at 9 o'clock.

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**Meeting held on 21 April 1922 (morning).**

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**Mr. F. TAJANI, PRESIDENT, IN THE CHAIR.**

**The President.** (In French.) — We will continue the discussion of question XVIII.

The committee which you nominated yesterday has prepared the summary which I will now ask the Principal Secretary to read, and afterwards put it to the vote.

**Mr. F. Level.** (In French.) — This is the summary which the committee has prepared for your approval :

« 1° In the difficult circumstances in which light railways are now being worked, it is absolutely necessary to take every means possible to enable them to exist.

« With this object, in addition to direct financial help, which is necessary in most cases, Authorities granting concessions should be requested to co-operate by legislation tending towards simplification of working and the reduction of working expenses to the minimum : for instance, reduction of the number of trains and of passenger classes, leaving certain level crossings unmanned, suppression of fraudulent travelling by the institution of fairly heavy fines immediately recoverable, etc. »

**The President.** (In French.) — I put to the vote the first paragraph of the

final summary. If there is no opposition, I declare it agreed to.

**Mr. F. Level.** (In French.) — This is the second paragraph :

« 2° As regards the adoption of a general method for working these lines, it is important to remember the great differences between the conditions of labour on main line and subsidiary systems.

« It is, therefore, desirable that Government intervention should not take place except with extreme care, in order to avoid raising working expenses to an impossible point. The satisfactory working of the lines can only be carried out by giving the Companies the utmost possible freedom in such matters as the fixing of rates, etc. »

**Mr. Biraghi.** (In French.) — I should put it « if it is necessary that it should be required ».

**Mr. F. Level.** (In French.) — It is desirable that it should not be required...

**The President.** (In French.) — It is desirable that the legislative should not intervene except with extreme caution.

**Mr. Biraghi.** (In French.) — I should like to provide for the case when it is unnecessary for this to occur. Let us say then : « if it is necessary that it should be required ».

If the legislature leaves us alone, so much the better.

If I ask for a thing to be done in a certain way, that is equivalent to asking for it to be done. Now I am asking for more than that, I am asking that it shall not be done.

**Mr. F. Level.** (In French.) — That is also what I think.

**The President.** (In French.) — Let us put it : « intervention in case of contingencies ».

**Mr. Biraghi.** (In French.) — Very well. The essential is that legislators do not interfere with our business. Let us put the thing clearly; what are we asking for in the resolution? It is this : that when legislators think well to interfere with our affairs, they should do so with a certain amount of caution.

It seems to be the idea that they should always interest themselves in our doings, but I say that it should only be done in case of urgent necessity.

**Mr. F. Level.** (In French.) — Once again I must point out that as regards the principle of the question we are all of one mind. What Mr. Biraghi has just said reflects the thoughts of all of us, but we are not masters as regards government intervention. It is the « Prince's prerogative », and we cannot prevent it, and this intervention is more than ever the order of the day. Let us simply ask

that it may be used with discretion, and it is in this spirit that the final summary has been drafted. It would be possible, however, to improve it by saying, that when the legislature intervenes, it would be better to do so with extreme prudence.

**Mr. Biraghi.** (In French.) — We are all of the same opinion.

**Mr. F. Level.** (In French.) — We do not wish it to happen, we only submit to it in cases of contingencies.

**Mr. Marguerat.** (In French.) — I should say we should be more precise and state : « when it is necessary ». If not it will mean that it will be always happening.

**Mr. F. Level.** (In French.) — We are not masters of the situation.

I will now read the 2<sup>nd</sup> paragraph of the 2<sup>nd</sup> part of the final summary. As regards the first paragraph, there was no objection. This then is the 2<sup>nd</sup> as revised :

« It is, therefore, desirable that Government intervention, when necessary, should be carried out with extreme care in order to avoid raising working expenses to an impossible point. The satisfactory working of the lines can only be carried out by giving the Companies the utmost possible freedom in such matters as the fixing of rates and fines, etc. »

— Adopted.



# DISCUSSION AT THE GENERAL MEETING

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Meeting held on 26 April 1922 (afternoon).

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Mr. R. DE CORNÉ, HONORARY VICE-PRESIDENT, IN THE CHAIR.

GENERAL SECRETARIES : Mr. J. VERDEYEN; Mr. E. FRANZA; Sir HENRY FOWLER.

ASSISTANT GENERAL SECRETARY : Mr. N. GIOVENE.

Sir Henry Fowler, *general secretary*, read the

## Report of the 5<sup>th</sup> section.

(See *Daily Journal of the session*, No. 7, p. 15.)

« Mr. F. LEVEL summarised his report and expressed the hope that there would be a good discussion.

« After a discussion, in which a considerable number of the members present took part, the following summary was adopted. »

The President. — This is the

## Final summary.

« 1° In the difficult circumstances in which light railways are now being worked, it is absolutely necessary to take every means possible to enable them to exist.

« With this object, in addition to direct financial help, which is necessary in most cases, Authorities granting concessions should be requested to co-operate

« by legislation tending towards simplification of working and the reduction of working expenses to the minimum : for instance, reduction of the number of trains and of passenger classes, leaving certain level crossings unmanned, suppression of fraudulent travelling by the institution of fairly heavy fines immediately recoverable, etc.;

« 2° As regards the adoption of a general method for working these lines, it is important to remember the great differences between the conditions of labour on main line and subsidiary systems.

« It is, therefore, desirable that Government intervention, when necessary, should be carried out with extreme care in order to avoid raising working expenses to an impossible point. The satisfactory working of the lines can only be carried out by giving the Companies the utmost possible freedom in such matters as the fixing of rates and fines, etc. »

— The general meeting ratified this summary.

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## QUESTION XIX

### SPECIAL METHODS OF TRACTION ON LIGHT RAILWAYS.

*Special methods of traction applied on light railways. Results obtained.*

#### Preliminary documents.

1<sup>st</sup> report (America), by Mr. H. B. SPENCER. (See English edition of the *Bulletin* of September 1920, p. 571, or separate issue [with red cover] No. 7.)

edition of the *Bulletin* of November 1921, p. 1841, or separate issue [with red cover] No. 41.)

2<sup>nd</sup> report (all countries, except America), by Mr. P. BIRAGHI. (See English

Special reporter : Mr. P. BIRAGHI. (See English edition of the *Bulletin* of April 1922, p. 719.)

## SECTIONAL DISCUSSION

Meeting held on 21 April 1922 (morning).

Mr. CAUFRIEZ, VICE-PRESIDENT, IN THE CHAIR.

The President. (In French.) — We are now going to consider question XIX. I will call upon Mr. Biraghi to speak.

Mr. Biraghi, *special reporter*, read the « résumé » of the reports on question XIX which he had prepared and which was published in the April number of the *Bulletin*. He continued :

The following is the summary I have drawn up :

A. — The system of coupling an internal combustion engine (of which at the present time the high-speed Diesel motor is the best) to a dynamo, so as to form an electric power plant mounted upon the rail car, ought to be consider-

ed, and its development followed with interest.

B. — *Compared with electric traction*, the system has the advantage of avoiding the great expense of the installation on the line, consequently it can be employed with advantage on lines with little intense traffic and on those that are only occupied by trains for a few hours each day.

C. — *Compared with steam traction*, the above mentioned system presents the following advantages :

1° It avoids the loss of time and expenditure of fuel which necessarily precedes putting a locomotive into service, the internal combustion electric rail car

being able to be started at a moment's notice;

2° A more frequent service can be economically provided and this will result in a development of passenger traffic;

3° More efficient use of the fuel;

4° No loss of time in refilling with water and fuel during the journey, even for long runs;

5° Possibility of using water of any quality;

6° Facility of heating and lighting trains;

7° Replacement of the driver and fireman by one operator only.

I should like to add a few words relating to an Italian system, the design of which is now in a very advanced state and in fact is already undergoing trial. It has features in common with the Diesel-electric system and may be considered as a Diesel-steam system.

The arrangement consists of pipes and containers for steam; there is one high-pressure container and one low-pressure container.

The same steam circulates the whole time.

A Diesel motor drives a compressor which draws steam from the low-pressure container, after it has been used in the engine, and returns it to the high-pressure container; it is of course understood that there is no boiler.

This shows that the Diesel motor coupled to another system may be thoroughly effective.

**Mr. F. Level, principal secretary.** (In French.) — I wish to make a remark, not from the technical point of view, but from that of advisableness, with regard to the first paragraph and the words given in parentheses (« of which at the present time the high-speed Diesel motor is the best »).

**Mr. Biraghi.** (In French.) — Appears to be.

**Mr. F. Level.** (In French.) — It would be better, in every respect, to suppress the words enclosed between parentheses.

**Mr. Biraghi.** (In French.) — Very well.

**Mr. Lanzerotti.** — Ministry of Public Works, Italy. (In Italian.) — I note that in the questionnaire circulated relating to question XIX the object was to collect data relating to special services to be obtained by means of automotor vehicles driven by Diesel motors or by steam, or by means of automotor vehicles fitted with internal combustion engines, and, under paragraph *d*, of automotor vehicles driven by accumulators.

No mention has been made of electric traction by accumulators either in the two reports or in the summary which has just been read.

I have been engaged, for some time, in this question, which appears to me to have great importance for transport service on light railways and I have found that, actually, the results obtained by electric accumulator traction on local railways may be considered as very satisfactory. I should like to draw the attention of the delegates and of the Permanent Commission to this point, with a view to making the Report more complete by some data relating to the possibility of the introduction of electric accumulator traction on light railways. I express the hope that technical men will give full attention to electric accumulator traction for the carriage of passengers on suburban lines and even for the transport of goods at very slow speeds on main lines. I will deal briefly with the point.

In Italy, trials of electric accumulator



traction were made, many years ago, on the Bologna-San Felice lines and on the Milan-Monza lines, but they were not a success, and this, in my opinion, was due to two reasons : the first because the question of traction by accumulators was not yet mature, the second because two lines had been selected which were not wholly suitable for the practical application of accumulator traction.

Actually, a very short time after both these lines had been electrified the traffic grew to such an extent that electric accumulator traction could no longer be considered. Whereas on the Milan-Monza line normal electric traction with a contact line gave good results, on the other line it was necessary to adopt steam traction for a much heavier traffic than had formerly existed.

Several years, however, have passed since these experiments were made. Lately numerous applications of electric accumulator traction have been made in Germany. Moreover, the *Journal of the German Engineers*, in one of its last issues, has published a report by Dr. Bergmann on electric accumulator traction and its progress, from which it can be ascertained that on 9 300 miles of tramway lines or light railways worked by means of accumulators, the results have been so satisfactory that it is proposed to extend the application of this method of traction still further.

This result has been attained because electric accumulator traction was installed under the most suitable conditions of service and because the accumulators supplying the electric energy are considered as « fuel ».

Mr. Thonet, Lombardy and Romagna Tramways, Italy. (In French.) — I have devoted my attention particularly to this question of special methods of traction

which is of very great importance to those engaged in working light railways and tramways.

The question of electric traction on light railways has been made a subject of study by our Congress for many years.

We have endeavoured to find the best system, which is the most practical and most economical for working a steam line and when progress of science allows of converting this to something better.

On reading the reports of Messrs. Biraghi and Spencer, I have found that the only question raised is that of the Diesel-electric automotor vehicle.

I was much struck on hearing Mr. Biraghi say that, as compared with electric traction, the system showed the advantage of avoiding heavy expenses of installation. He states, moreover, that the Diesel motor, in use in America as well as in Sweden, offers economic advantages, and that it appears that there is no other system that is better or more practical.

Mr. Lanzerotti has spoken about accumulators. In Hanover, more than fifteen years ago, trials were made extending over a period of about two years. After having examined the full results of the working it was found that the system was bad and it was completely discarded.

We cannot say at this Congress that such and such a system is suitable and is the system of the future, without such systems have been tried on a large scale for some time and have proved to be generally satisfactory.

While I favour the Diesel system for the moment, I think that you will go too far if you say that it offers so many advantages.

It has, it appears local advantages, very limited on some lines, and under some conditions of working in America, but we do not know these, here, in Europe.

This system is not therefore in use in a general way.

Consequently we, the French, Italians and Belgians, cannot maintain at the Congress that this system has many advantages as compared with other systems. It would be dangerous to go so far as this.

Under some conditions of working, the public Administrations might say: Adopt this system, otherwise we shall construct new lines on a system more highly perfected than what you have adopted up to the present.

We should in general be very careful and state that it follows from the particulars obtained from Sweden and America that certain advantages have been found in the use of the Diesel motor in conjunction with dynamos.

From the results obtained in Germany, it follows that electric accumulator traction, under certain definite working conditions, and when allowance is made for the replacement of the worn-out batteries, can be recommended.

It is not always possible to find makers everywhere who are willing to take back the worn-out batteries at a price remunerative to us (the batteries which you rightly describe as fuel), and on the other hand if, after a life of four or five years, the makers are willing to take them back at a small fraction of the original cost we might be entirely in their hands. This is what happened at Hannover a number of years ago.

The firm interested was represented by a tramway manager and the figures given out were excellent, but, after independent enquiry and examination, it was found that the results obtained were disastrous both from the point of view of working and of efficiency.

I ask, therefore, that the summary shall be modified and limited to stating that

having regard to the results obtained in Sweden and in America, it appears that the use of the Diesel motor in conjunction with a dynamo may show advantages.

It may be remarked that, in Germany, experimental services have been worked with accumulator batteries on 9 300 miles of line, but I must admit that I am much astonished to learn that there are 9 300 miles of lines being worked under these conditions. It is more likely that these are special services run on steam lines.

In any case it would be well not to arrive at any finding which would be of such a nature as to commit us in the future.

Mr. Perdrix, Mouths of the Rhône District (Chemins de fer départementaux des Bouches du Rhône), France. (In French.) — On the military railways of 0.60 m. (2 feet) gauge in Morocco the question has been solved by very light automotor petrol vehicles (weighing in running order, but without passengers, 2 tons 4 cwt.). These are capable of carrying nine passengers as well as the driver and conductor and of hauling two passenger trailers each carrying 12 people (over tracks on which there are no heavy gradients). The results obtained have been very favourable; twenty-two automotor vehicles of this class are running at the present time on this railway system which is more than 620 miles in length and they enable the trip from Casablanca to Fez (205 miles) to be made in a day and to ensure a regular service of three trains per day in each direction between Casablanca and Rabat (56 miles). The speed varies from 15.5 to 21.7 miles per hour.

Mr. Thonet. (In French.) — What motor is used?

**Mr. Perdrix.** (In French.) — It is an English motor made by the « Drewry Car Co., Ltd., London » and is of 20 H. P.; the cylinders are 3 9/16 inches bore by 5 1/8 inches stroke, and the normal speed is 1 000 revolutions per minute. The mean compression at 1 000 revolutions per minute is 45.5 lb. per square inch. Traction by petrol on narrow gauge railways can therefore be effected economically, but difficulty arises when the traffic becomes heavy.

We have been obliged to triple and quadruple the automotor vehicles on days when there is heavy traffic, and this has rendered spare stock necessary.

This system has been running for five years and working regularly.

I have no official documents, because I am no longer in the service of this Administration which was under military management and is, I believe, now controlled by the Treasury through the department of Roads and Bridges. This Administration is not represented at the Congress, but I wish to mention this trial of petrol traction which is certainly one of the most important at the present time.

**Mr. F. Level.** (In French.) — In France some trials have been made of traction with petrol automotor vehicles.

One of our colleagues, Mr. Tartary, bought motor lorries at the sale of military stock, that is to say motor lorries of any kind that had been running during the war and were still in good order. He merely changed the rubber tyred wheels for railway wheels with flanges and he even left the steering as it was; he obtained excellent results with these lorries. On some lines there were services running entirely with this method of traction. Having mentioned this, it is my

opinion that this question should not take up more of our time to-day, for though these lorries may give satisfaction in special cases, they are not capable of carrying a large amount of traffic on our lines. They can, consequently, only be used under very special conditions for carrying a limited number of passengers. Actually 20 to 30 passengers may be looked upon as the maximum; as soon as there is the slightest gradient it is impossible to use a trailer.

The question has only advanced as far as this stage in France.

**Mr. Barocio,** Ministry of Public Works, Mexico. — In Mexico, by reason of the difficulties in applying electric traction, we have adopted internal combustion motors, explosion motors, with chain transmission. Good results have been obtained. The motors adopted are of the 24 H. P. type.

**Mr. Lanzerotti.** (In Italian.) — I should like to reply to what Mr. Thonet has said, regarding the risk when raising technical problems of acting more or less in the interest of manufacturers. I wish to state that I represent no manufacturer whatever.

I made a statement of purely technical interest; I will confine myself to proposing that the section should express the wish that this problem may be studied; it is not a question of making an application of it in practice, but merely of studying the question. For if, actually, the practical application of electric accumulator traction became possible, it would follow that the Governments as well as the companies would make themselves independent of the manufacturers and would establish their own accumulator factories which would act as stations for obtaining the new « fuel » for



electric traction, and the problem would thus be satisfactorily solved.

**Mr. Biraghi, reporter.** (In French.) — I must state, and I do so with pleasure, that the result of our discussion has been to confirm my idea of the value of the motion that I proposed at the commencement of our first sitting at the time of the discussion on question XVII. In our province it is particularly necessary to ask for particulars even from those bodies that do not form a part of the Association of the Congress : sometimes quite small questions that have been studied and applied by small companies may give very great results.

Mr. Lanzerotti has actually brought to us particulars of the subject from societies and companies which it had not been possible for us to consult; Mr. Perdrrix has also made interesting statements to us on the same subject. This has only confirmed the remark that I made at the commencement, and I congratulate myself on it. The reporters could not actually take account of anything but the particulars obtained from the societies that they were able to consult.

I share the opinion of Mr. Thonet completely and I think with him that we cannot come to conclusions which might be used against us. I was in exactly this state of mind when I wrote (*he read — in French — some passages from his report*) that I was of the same opinion and, as Mr. Level suggested to me, I now cut out the phrase in parentheses that was in my findings at the time that I wrote : it is of interest to follow the applications of this system. This does not mean that we propose this as a final solution, or as a solution to be adopted; we merely propose it as a technical advance which appears to us to be of such nature as to lead to a useful and even profitable solution.

I think therefore that Mr. Thonet him-

self, after this clearing up of the difficulties, will be able to admit that the main paragraph, under letter A, contains all those reservations that he wished to introduce with, all the caution that his long experience has taught him.

Of course, the trials should be based on the supposition that if, following this solution of the technical problem with interest, we should find it a success, the conclusions would be favourable.

I hold therefore that our eminent colleague, Mr. Thonet, might be in favour of these findings. As Mr. Level has stated so clearly the case of the Morocco railways quoted by Mr. Perdrrix is exceptional, and I think I may say that it is not a question of a new method of traction for railways; it is rather one of a new type of road for automobiles. For, after all, what are these Moroccan railways of 60 cm. (2 feet) gauge? They only represent a method of communication that replaces the ordinary road. Obviously if there were an ordinary road in Morocco instead of these railways an automobile service would have been established, and actually it is an automobile service on rails that is being worked at present, because when it is a question of motors of 20 H. P., one must evidently speak of it rather as the equivalent of automobile service than of railway service.

Consequently in accepting the proposal of Mr. Level to delete the words in parentheses in paragraph A), so as to enlarge its scope, I think that we may conclude that a central electric station on wheels consisting of a motor set (it matters little whether this is of the Diesel type or of another type) coupled to electric generators can in principle be accepted with advantage.

**Mr. Marguerat, Viège-Zermatt Railway, Switzerland.** (In French.) — I wish to make one comment. In the second para-

graph it is stated : « Compared with electric traction, the system has the advantage of avoiding the great expense of the installation on the line. »

This is perhaps true in many cases but it is not invariably true.

In our country this system could not be adopted without probably altering the whole of the track. It cannot be said in general terms that the application of this system is cheaper than that of ordinary electric traction.

During the war we investigated the question of electrifying our line. Now the purchase of the necessary locomotives would alone have involved an expenditure of 4 million francs while the equipment of the line would not have reached 1 million.

It cannot therefore be said that it is the electric equipment that causes the electrification of a railway to be so costly. In Switzerland nine-tenths of the lines have been electrified and all are contact lines.

I propose to state that the system offers the advantage, in some cases, of avoiding heavy cost of installation.

With regard to ourselves, we cannot adopt it. According to the particulars given a locomotive of 250 H. P. would weigh as much as 50 tons. We should therefore have a weight of 100 tons for our locomotives of 500 H. P. which would necessitate a complete modification of the superstructure (track and bridges). The expense would be very great. This system cannot be applied to lines having steep gradients or that run through hilly country.

It has been mentioned as an advantage that the system is that of a travelling electric central station; now this is rather a disadvantage.

If we have been able to obtain permission for having only one man on the locomotive, it is because the driver does not

need to give any attention to the production of power.

There is an essential difference between the driver of an electric locomotive and the driver of a steam locomotive. The first has nothing to consider but the signals; the driving of a steam locomotive is quite a different business : attention must be given to the fire, to the water level, etc.

There are therefore disadvantages in arranging for a travelling central electric station. The supervising authorities would doubtless put difficulties in the way of allowing such a locomotive to be driven by a single employee : and with the present cost of labour this extra expense would be very heavy.

On the subject of accumulator locomotives I would mention the considerable amount of time lost in charging the batteries.

In the neighbourhood of Sarrebrück, I have seen this system in use, but as a means of transport its use is very limited. There is accommodation for 40, 50 or 100 passengers at a maximum, and after running 50 to 60 miles an enormous amount of time is necessary for charging.

Finally comes the question of cost which is the great question.

Now, in the present straightened position of the companies, we cannot lose sight of the financial and economic aspects of the question.

There is also the question of the current. One is not always close to the generating stations where current can be obtained at low cost; and it is necessary to obtain current at an extremely low cost.

Mr. F. Level. (In French.) — We do not wish to exclude steam traction.

**A Delegate.** (In French.) — Obviously we do not.

**Mr. F. Level.** (In French.) — On the other hand we do not wish to state that this or that method of electric traction is better than the others.

Could we not say that, among the special methods of traction used, compared with electric traction, the system has the advantage, in some cases, of avoiding heavy cost of installation on the line?

This is your idea is it not Mr. Marguerat?

**Mr. Marguerat.** (In French.) — Exactly.

**Mr. G. Vallecchi, secretary.** (In Italian.) — I desire to ask Mr. Lanzerotti if he is quite sure that there are actually 9 300 miles of track worked in Germany by electric accumulator traction.

I admit that, while I am specially concerned with local railways and electric tramways, I had, up to the present, overlooked this very interesting statement.

**Mr. Lanzerotti.** (In Italian.) — 9 300 miles of railway. I have here a map which shows the light and main railways worked by means of accumulators.

**Mr. Thonet.** (In Italian.) — 9 300 miles of track?

**Mr. Lanzerotti.** (In Italian.) — 9 300 miles of track electrified by accumulator traction. All the lines near towns for local service are electrified thus. Investigation is even being made now as to the application of this method of traction to the carriage of goods on main lines at very slow speeds; the results obtained are satisfactory because, I repeat, the accumulators are considered as a fuel

and are not loaded on the automotor vehicles, but on tenders and suitable wagons, which are changed after 60, 90 or 110 miles run. After having been discharged a certain number of times the accumulators are thrown out and sent back to the factory which undertakes to return entirely new batteries.

I made out a scheme of electrification of this type for a small Italian railway from Gozzano to Alzo and I was able to find that actually the manufacturers of the accumulators undertook to renew the batteries periodically under contract in such manner that I could consider the accumulators as fuel destroyed in traction; just as the supply of new coal is made up from time to time, so, in the case in question, is the supply of new accumulator batteries renewed.

I do not wish to go into details because I know that a detailed technical discussion would not be opportune. But from the brief survey that I have just given you I think it will be possible to draw the conclusion that electric accumulator traction deserves special attention.

I am of the opinion that little by little the technical features of the manufacture of accumulators, which have been continually improving up to the present time, will ultimately be perfected and I have great hope, in particular, in Italian initiative. The improvements in the preparation of the accumulator batteries imply immediate improvement in the transport service. Electric accumulator traction is suitable for local service on main lines up to 60 to 90 miles when the gradients do not exceed 14 to 15 per mil.

In these cases this method of traction is economical from every point of view; if the gradients exceed 15 per mil and are as steep as 20 per mil electric traction by accumulators begins to become less eco-



nomical, but may still be introduced with some advantage. Among the advantages to be obtained from it there is also, from my point of view, the reduction of staff. Our Swiss colleague Mr. Marguerat, has just informed us of the tendency to reduce the staff which has reached the point of having only one employee instead of two on steam locomotives. This is, perhaps, dangerous; but, on the contrary, it presents no danger on electric accumulator locomotives, where it is logical and economical to have a single employee who need not be specially skilled.

The running of an electric locomotive requires less training than the running of a steam locomotive; that of an electric accumulator locomotive requires still less.

I will conclude this brief statement by reading the short summary which I should like to see adopted: « The Commission expresses the wish that electric accumulator traction should be specially studied by technical men for the transport of passengers and goods on local lines and also on main lines for the transport of goods at very slow speeds. »

Mr. Thonet. (In Italian.) — We have heard, Gentlemen, what has been said to us by the Reporter, Mr. Biraghi, and by Mr. Lanzerotti. I should like to make one remark relating to principle; we cannot here, at the Congress, come to decisions so definite that they may lead not only manufacturers, but also public bodies, to say to us: You could apply such and such a system on such and such a line under such circumstances. Our discussions are watched by governments who may later on use them against us, saying: You should apply these.

Now, according to results obtained, the Diesel motor is only in use in Sweden and in America. It appears that it is not yet economical for goods transport. Mr. Lan-

zerotti has made known that in Germany there are 9 300 miles worked by electric accumulator traction, but this probably takes into account all suburban lines with light traffic and free from heavy gradients. He also says: the manufacturers take back the accumulators as though they were a sort of coal. Actually the material having been consumed is taken back by the manufacturer. But, on the other hand, after 100 miles and up to 124 miles the battery is out of use and requires to be replaced.

Mr. Lanzerotti. (In Italian.) — No recharged.

Mr. Thonet. (In Italian.) — ...and completely overhauled.

Mr. Lanzerotti. (In Italian.) — It can be recharged 300 times.

Mr. Thonet. (In Italian.) — Then special installations are necessary; manufacturers must be found who will take back the batteries on economical terms; and for the present, at any rate, we are putting ourselves into the hands of interested manufacturers.

I think, therefore, that we should simply say: It follows from the particulars that we have obtained that internal combustion engines coupled to a dynamo have given such and such results in Sweden and in America, but that they are not yet suitable for the goods traffic of to-day.

The lines worked with accumulator batteries, according to the statement of Mr. Lanzerotti, give very satisfactory results by agreement with the manufacturers because there are 9 320 miles being worked. But the Congress should, in my opinion, limit itself to advising waiting until trials have been made of the application of these systems, both as regards the Diesel engine and as regards

accumulators in Europe, that is to say in Italy, in France, in Belgium and elsewhere, but not in Germany, in order that we may have exact information for a future Congress enabling us to make a more thorough investigation as to the future.

**Mr. Maffezzoli**, Transport Federation, Italy. (In Italian.) — I have asked to speak in order that I may support the remarks of our Swiss colleague Mr. Marguerat. The question of studying or directing study towards a solution comprising a double transformation of energy appears to me to be a retrograde step rather than progress. We know already that the thermal efficiency of internal combustion engines is not very high. If we combine the two efficiencies : that of the dynamo and that of the motor, we shall obtain a very low efficiency and I cannot see what would be the corresponding advantage.

I regret that I have not brought with me any data relating to some petrol-electric automotor vehicles designed for the Transvaal railways; if one of our English colleagues could give us particulars relating to these I should be much obliged. The automotor vehicles to which I refer were worked out on the following principle : a petrol motor is coupled to two electric motors which work equally well as dynamo or motor; the coupling between the internal-combustion engine and the electric motors is in the form of a differential gear. With this arrangement it is possible to obtain a mechanical characteristic almost the same as that of continuous-current motors connected in series and having a very high efficiency.

Motors have been constructed of this kind up to 1 000 H. P.

I again ask whether one of our English Colleagues can give us particulars on this

subject for which I should be very grateful to him.

I think, therefore, that the summary should be rather more general from the point of view of the direction in which experiments should take place.

With regard to accumulators I also share the opinion of our Swiss colleague. The cost of accumulator automotors is enormous and this renders the use of them almost impossible. Moreover, the charging of accumulators involves waste of time, their radius of action is very limited and they cannot be employed on lines on which the traffic attains even moderate magnitude.

**Mr. Thonet.** (In Italian and in French.) — As I have just said, I think that it is not wise to frame resolutions which may almost force us to follow the findings of the Section. This is the more necessary because the results of working and the financial results are not given to us. It is not sufficient to state that economy is effected in the cost of installation of the line; it is necessary to take account of the results of working and of the financial results. I make the same remark in relation to accumulators.

Because the Report speaks particularly of the Diesel motor, and Mr. Lanzerotti has given us a statement regarding accumulators, which are in use on numerous lines, I propose to say here : « It appears from the particulars received from some Administrations, in America and in Sweden, that the Diesel-electric motor offers the advantage of avoiding, in some cases, the heavy cost of installation on the line. In any event it would be advisable to wait until the system has been applied in other European countries to allow a thorough study to be made of the cost of working and of the financial results. » I repeat that we have not any

knowledge of the financial results. « The same applies to accumulators used for traction on several thousand kilometres in Germany. »

When we come before the full Meeting we should propose a general motion.

We cannot make a decision to-day because, I repeat once more, we do not know the financial results, and we do know that the accumulator has been abandoned everywhere except in Germany.

The President. (In French.) — Does it not appear to you that the text of Mr. Thonet should be modified in the sense that the Diesel motor should not be mentioned?

Mr. Thonet. (In French.) — If you wish.

The President. (In French.) — Let us say : internal-combustion motor with dynamo.

Mr. Thonet. (In Italian.) — I would remark that the report only mentions the Diesel-electric motor.

The President. (In French.) — It is understood that, in the summary, we shall delete the words in parentheses : « of which at the present time the high-speed Diesel motor is the best ».

Mr. Thonet. (In French.) — We are in perfect agreement.

Mr. C. Sapin, Light railways of the Yonne, France. (In French.) — I agree with Mr. Thonet. On the French railway system we have made experiments and we have put away in our sheds all the vehicles that have been invented.

The constructors of motors do not know what to do! But so far as we are concerned, we ought not to say that it is advisable to begin such investigations.

In France the public authorities have already been caught. Two firms have invented motors!

And we are obliged to pay for the consequences of all this! No, no, Gentlemen, let us be cautious.

Workshops that are without work wish to supply us with motors that are thoroughly unsuitable.

It is not our place to make these experiments. Elsewhere, in Hungary in particular, similar experiments have been made. Very well, do not let us follow the same road.

Whether it is a question of a Diesel motor or of any other system matters little. It is the manufacturers who invent all these instruments of torture for us! Let us not put ourselves on the rack. (Laughter.)

Mr. Biraghi. (In Italian.) — Mr. Marguerat has investigated the weight of these automotor vehicles and has come to the conclusion that it would be necessary, in many cases, to effect change in the sub-structure of the track to make it sufficiently strong. I think I should mention to Mr. Marguerat that actually the weight of these automotor vehicles does not exceed that of the ordinary locomotives, because we have, for example, on the 75 H. P. automotors a weight of 30 tons distributed over four axles, that is to say about 4 tons per wheel, a load which all forms of sub-structure can carry.

With regard to the cost of installation, Mr. Marguerat stated that the cost of installation of the lines was doubtless less than the cost of the automotor vehicles. But when we electrify a line we have not only to establish an electrified line but we are obliged to purchase the locomotives.



And to-day these certainly cost much more than the line itself.

In reply to the remarks of Mr. Maffezzoli I should say that to reject the system or rather the conception of a system, because it is founded on the transformation of energy would be equivalent to wishing to suppress all electric traction, under whatever form it may be, and even all production of electric energy, because all thermo-electric energy depends on transformation. In the thermo-electric installations we have, in general, a steam engine or other motor driving a dynamo, which in its turn drives the electric motors. We cannot therefore deny the principle of transformation.

In the instance in question it should be remembered that these internal-combustion motors have a thermal efficiency six times as great as that of the steam engine.

The remarks made by Mr. C. Sapin are perhaps, on account of his subtle reasoning of very negative quality because if we followed him to the letter — and Mr. Sapin is much too far-sighted not to understand this — we should not only have to eliminate the question of « special methods of traction » with which we are concerned at present, but we should also have to confine ourselves exclusively to the existing main types of traction, that is to say to steam and electric traction.

It is obvious that a technical assembly such as ours cannot decide to reject absolutely solutions which might be better than those at present adopted, though it may discuss them carefully over and over again and consider all the precautions that should be taken with them, precautions which our experience as managers and technical men will suggest.

I am entirely in agreement with him that the inventor makes himself out to be the martyr of the constructor, but we must nevertheless recognize that the inventor has also led us to practical results. It is for this reason that I cannot adopt, without discussion, the line of procedure that Mr. Sapin has just laid down for us.

The resolutions that have been framed by Mr. Thonet do not appear to me to satisfy adequately the conditions that should be followed. We are in agreement with regard to cutting out of the summary of the phrase, in parentheses, relating to the Diesel motor.

In my report, I only speak, of course, of the Diesel motor coupled to an electric generator. Why? Because it is the only concrete idea that has been put forward in answer to the question.

But what is the leading idea in the report? It is that of obtaining a special method of electric traction for all those cases for which ordinary electric traction is not of economic advantage, and of avoiding the enormous outlay on fixed installations. Now why is electric traction not economically advantageous on several of our secondary railways? It is because the capital invested in the installation requires amortisation, which must be provided by the Company for the whole line through the whole of the year, whereas this installation is only actually in use for three or four hours a day. This is the great enemy to the development of electric traction on our lines. How many times have we not been asked: Why do you not electrify this line? I do not electrify it because there is not enough traffic. Electric traction requires very heavy traffic which can utilize the stationary generating plant for the greater part of

the day. If therefore we can obtain the advantages that electric traction possesses, while retaining the independence and other advantages of steam traction, we shall have solved the problem.

Now, whatever system we may select whether petrol-electric explosion motor or internal-combustion engine, if we have a system that allows us to work our line independently of any fixed plant we can say, quite conscientiously, that we have effected an economy in the cost of installation of the line.

In my opinion there can be no doubt as to this. We can state that this system is the only one that has been shown on enquiry to have been brought into use, not yesterday, not since the war — that is to say since the manufacturers of machines have pursued the user, showing him all the best features of appliances that are quite useless — but since 1915, that is since the beginning of the war, when the customers were numerous. We can assert, I repeat, that this system affords the solution to the problem of adapting electric traction to the conditions of light traffic on these lines which could not pay if they had to instal fixed plant.

This is the idea that we ought to adopt. Now it appears to me that we cannot pronounce judgment on this idea, but we can certainly recommend that it should be investigated.

This is the knotty point: What can we do at the present time?

Having stated this at the commencement of paragraph A, the succeeding paragraphs could be put in the conditional form, — that is to say they could be worded as follows: « If this idea proved to be successful, the following advantages would follow... »

This is the amendment that would be acceptable to me.

**The President.** (In French.) — I propose to close the discussion, as we have heard sufficient arguments on both sides.

— The discussion was closed.

**The President.** (In French.) — We will now proceed to deal with the summary.

**Mr. F. Level.** (In French.) — The following is the summary suggested by Mr. Thonet as amended: « It appears, from information received from several Companies in America and in Sweden, that the principle of coupling an internal combustion engine to a dynamo, and working the train by means of electric motor, allows in some cases the heavy expense of electrifying the line to be avoided.

« In any case it will be well to wait for this system to be applied in other European countries, so as to afford an opportunity later for the study of the working costs and the financial results. The same applies to the use of accumulators for traction. »

**Mr. Thonet.** (In French.) — Mr. Lanzerotti has spoken of 9 300 miles in Germany. On the other hand, we do not know the results of the working, or the financial results.

**Mr. F. Level.** (In French.) — Could we not say: « With regard to accumulators, it would be well to wait for more complete particulars? »

**Mr. Thonet.** (In French.) — Very well.

**Mr. Lanzerotti.** (In French.) — We are agreed.

**Mr. F. Level.** (In French.) — Let us say: « With regard to the use of accumulators, it would be well to wait for more complete particulars. »

**The President.** (In French.) — Their use has been abandoned in Belgium.

**Mr. Philippe,** Belgian Northern Railway. (In French.) — In view of the bad results obtained, they have been abandoned everywhere.

**Mr. Biraghi.** (In French.) — I think that for a Congress such as ours, it is not sufficient to say that we should wait. Our Congress should state whether it is an idea that is worth following. This is the difference between the views of Mr. Thonet and myself. If we wait nobody will ever know anything. Is the question of interest or not? If it is of no interest, let us say so and expect nothing further; but I do not understand the limitation to waiting. You say that no financial results have been obtained; now, if the report is read the financial results will be found given.

Let us follow the idea and all our colleagues will follow it.

**Mr. F. Level.** (In French.) — I propose to say: « It seems necessary, however, to await the installation of this system in other European countries in order to consider how it affects working expenses and financial results. »

**Mr. Thonet.** (In French.) — Exactly.

**The President.** (In French.) — Is every one agreed? (*Yes, Yes*).

Accumulators were condemned and given up in some countries before the war.

In Germany, their use has been continued, but we have no further information regarding them.

Are we going to recommend an accumulator system that has been abandoned by the greater number of countries represent-

ed here? It would be better to be silent on this point.

**Mr. Lanzerotti.** (In Italian.) — I have submitted an additional note and I insist on it being included. I only ask one thing and that is, that special attention is drawn to the investigation of accumulator traction, a question that was put in the questionnaire. If, at our meeting we have not been able to obtain particulars that were desirable, this has been due to the absence of German delegates who would have been able to supply us with full particulars; this is not our fault. For my part, I should have been better satisfied if more precise explanations had been given than my own.

But with regard to the financial side and the technical aspect of the question I think that the particulars that have been collected are adequate to enable us to appreciate the question.

**The President.** (In French.) — Please allow me to remind you that the discussion is closed. The majority of those present appear to be opposed to recommending the use of accumulators.

**Mr. Lanzerotti.** (In Italian.) — The questionnaire was worded thus: petrol-electric system, steam system and also accumulator systems. Now the particulars that have been obtained only concerned the first two systems, whereas, I think that particulars should also have been obtained relative to the third type because it was mentioned in the questionnaire.

**Mr. Thonet.** (In French.) — Mr. Lanzerotti says that the question of accumulators appears on the agenda of the Congress. He asks that investigation should be continued, as has been done in the case of other questions, in order that the finan-



cial results obtained with accumulators may be ascertained.

**The President.** (In French.) — The investigation of all the systems should be continued. All systems are equally open to investigation.

**Mr. Biraghi.** (In French.) — It might be put in general terms.

**The President.** (In French.) — Perfectly. The other systems might be mentioned in general terms.

**Mr. Thonet.** (In French.) — In order to satisfy Mr. Lanzerotti we could put, after the mention of petrol-electric motors : « accumulators and other systems ».

**The President.** (In French.) — We cannot say that accumulators offer the same advantages.

**A Delegate.** (In French.) — Let us say that the accumulator system has given unsatisfactory results up to the present.

**The President.** (In French.) — In order to come to a conclusion, allow me to put the question in general terms.

Let those who are in favour of mentioning accumulators raise their hands. (*Five members raised hands.*)

Let those who do not wish any mention to be made of accumulators raise their hands. (*More than five members raised hands.*)

There will accordingly be no mention of accumulators.

**Mr. F. Level.** (In French.) — We are therefore agreed in adopting the text, as follows :

« It appears, from information received from several Companies in America and in Sweden, that the principle of coupling

an internal combustion engine to a dynamo, and working the train by means of electric motor, allows in some cases the heavy expense of electrifying the line to be avoided.

« It seems necessary, however, to await the installation of this system in other European countries in order to consider how it affects working expenses and financial results. »

— Adopted.

#### Motion on procedure.

**Mr. F. Level.** (In French.) — Gentlemen, you are aware that we ought to meet on Monday next at 9 o'clock to discuss question XX, the last question we have to examine. But you are also aware that most of our colleagues are very anxious to attend the meeting of the 4<sup>th</sup> section, where the question of interchange of rolling stock will be discussed. Now this question will come up for discussion during the morning of Monday. It may not come up at the beginning, but will probably do so during the morning. Do you not think that our worthy Chairman might be asked to get into touch with the President of the 4<sup>th</sup> Section and ask him to let us know in due course when the discussion on the interchange of rolling stock is reached. If Mr. Bonnevie, the Reporter, does not object we can commence the examination of question XX at 9 o'clock. We can stop our discussion and join the 4<sup>th</sup> section as soon as we are informed that the discussion on the subject of rolling-stock is open.

Moreover I would ask that you should prepare to answer a question that will be put on Monday or Tuesday relating to a wish that the light-railway Section might put before the Permanent Commission of the Association, regarding the various

questions which it desires should be examined at the next Congress. (*Agreed.*)

I will ask our Chairman to put this point on the agenda of our next meeting.

Each one of us might consider the matter.

It is certainly our business to express our wishes regarding this matter.

Mr. Biraghi. (In French.) — Obviously.

The President. (In French.) — Is this agreed? (*Yes, Yes.*)

Your wishes will be carried out, Gentlemen, and we will meet on Monday morning at 9 o'clock.

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## DISCUSSION AT THE GENERAL MEETING

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Meeting held on 26 April 1922 (afternoon).

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Mr. R. DE CORNÉ, HONORARY VICE-PRESIDENT, IN THE CHAIR.

GENERAL SECRETARIES : Mr. J. VERDEYEN; Mr. E. FRANZA; Sir HENRY FOWLER.

ASSISTANT GENERAL SECRETARY : Mr. N. GIOVENE.

Sir Henry Fowler, *general secretary*, read the

### Report of the 5<sup>th</sup> section.

(See *Daily Journal of the session*, No. 7, p. 15.)

« M. BIRAGHI read a summary of his report, after which a most interesting discussion arose regarding special systems of traction other than steam.

« The following summary was finally adopted. »

The President : This is the

### Final summary.

« It appears, from information received from several Companies in America

« and in Sweden, that the principle of  
« coupling an internal combustion engine  
« to a dynamo, and working the train by  
« means of electric motor, allows in some  
« cases the heavy expense of electrifying  
« the line to be avoided.

« It seems necessary, however, to await  
« the installation of this system in other  
« European countries in order to consider  
« how it affects working expenses and  
« financial results. »

— The general meeting ratified this summary.

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SAFETY APPLIANCES ON LIGHT RAILWAYS.

*Cheap appliances for ensuring safety on light railways.*

Preliminary documents.

1<sup>st</sup> report, by Mr. S. DE KAREISCHA. (See English edition of the *Bulletin* of March 1921, p. 247, or separate issue [with red cover] No. 13.)

2<sup>nd</sup> report, by Mr. A. BONNEVIE. (See English edition of the *Bulletin* of October

1921, p. 1539, or separate issue [with red cover] No. 37.)

Special reporter : Mr. A. BONNEVIE. (See English edition of the *Bulletin* of April 1922, p. 723.)

SECTIONAL DISCUSSION

Meeting held on 25 April 1922 (morning).

Mr. F. TAJANI, PRESIDENT, IN THE CHAIR.

The President. (In French.) — We will proceed to discuss question XX. I call upon the Reporter to open the discussion.

Mr. Bonnevie, reporter. (In French.) — Gentlemen, I must in the first place state that my report does not contain any information dealing with Portugal, as the answers from that country arrived too late.

Also, in this case as well as in some others, it was not always possible to distinguish whether light railways were being dealt with or other railways; the information given appeared rather to refer to ordinary railways.

The report which I have been entrusted

ed with preparing is really in continuation of Mr. Kareischa's report.

Under these circumstances I have felt myself obliged, out of deference for my worthy predecessor, to reproduce all the paragraphs of the final summary which he had proposed. These are too numerous, however, and I propose to reduce them considerably.

The President. (In French.) — You will read them presently.

Mr. Bonnevie. (In French.) — Quite so.

I am going to begin by reading the resume of my report which has been published in the April 1922 number of the *Bulletin*.



I will not read the printed paragraphs.

Here is the summary which I propose :

« 1° It does not appear advisable to exceed a speed of 31 miles per hour on light railways on the open line, and 6.2 miles where buildings are numerous, and this may even be reduced to 3.1 miles at dangerous crossings;

« 2° In this way the necessity of fitting continuous brakes will be avoided, except in exceptional cases (high speed, dense traffic, steep gradients);

« 3° Under these conditions special protection for level crossings is not necessary, except in exceptional circumstances.

« Warning posts, alongside the railway and the road which crosses it, appear as a rule to be sufficient;

« 4° Assuming that the speeds do not exceed the limits given above, signals, whether for protection of stations or to assure safe working of the trains in general, may be very simple : telephone, electric bells, etc.

« However, in the case of single line working, it is desirable to use a more complete system giving effective control, avoiding however as far as possible the necessity of signalmen at fixed points;

« 5° Points leading on to the main line should be padlocked in a safe and convenient manner;

« 6° Interlocked catch points on the light railway are advisable at level crossings over standard gauge railways carrying heavy traffic. »

The President. (In French.) — It would be interesting to know if there are any special methods.

For example, the question of the employment of one man to control a number of stations is very interesting. We should ascertain whether on the light

railways this system has been tried.

It may be possible to find special or safety devices suitable for light railways which would not be applicable to ordinary railways.

Mr. Philippe, Northern Railway of Belgium. (In French.) — In answer to the point raised by the President, I would say that on our system we are employing the « despatching » system during the beetroot season, and this has given every satisfaction.

Passenger trains run in accordance with the fixed time-table. Goods trains should be put into sidings ten minutes before the passing of passenger trains. Otherwise the line is divided up into sections, the traffic on which is controlled by one man.

This system has given very good results, by means of telephonic communication.

During the war, we were deprived of the telephone, as the Germans forbade these to be used, and the service was much more difficult to carry out, especially as regards arranging crossings.

By means of this system, we can deal with very heavy traffic. We have annual receipts of 40 000 to 50 000 fr. per kilometre on certain lines.

In the beet sugar season the traffic increases to an amount which corresponds to annual receipts of about 90 000 fr. per kilometre.

Mr. F. Level, *principal secretary*. (In French.) — In support of what Mr. Philippe has just said, I might say that in France, for example, and it is certainly the same in other countries, there is a method which at the present time we tend to lose sight of, which is extremely suitable for light railways; this is the staff system.

On our lines in France, where in the

majority of cases this system is employed, we can meet all the demands made upon it. During the war, for example, on a metre (3 ft. 3 3/8 in.) gauge line which in 1918 was close to the front and which had to carry considerable transport for the British Army, we succeeded, thanks of course to the use of additional rolling stock, both locomotives and wagons, in carrying all the transport which we were asked to do, not only as regards the Army, but also as regards feeding the civil population, which could only have been done with difficulty by the main lines of the Nord system in the Boulogne district, which had been devoted to military traffic towards the Yser.

Although this line was narrow gauge and single line, we were able, merely by putting in extra crossing places (for I need not remind you, Gentlemen, who are specialists in this question, that a double track is really nothing but a single line with an infinite number of crossing places; we therefore simply doubled or trebled the number of crossing places as the case may be) we were able, I would say, to carry all the traffic which we were asked to do without any accident, without any meeting of trains, without any collision, and in a word, without the least hitch, and that was solely done with the staff system which we retained in spite of pressure brought to bear by the military authorities, who are somewhat alarmed to see us carry out such important traffic with such a slender means of ensuring safety.

I would repeat we have been able to meet all demands without the least difficulty.

I think I have thus answered the point raised by our worthy President.

I would add that it is very difficult, in a section like this, which includes lines which are truly light railways and also

secondary lines which carry, in fact, main line traffic, especially in the case of the Italian lines, it is very difficult I say to adopt a fixed rule.

It is always the same, what is suitable in one case is unsuitable in another.

Consequently, one cannot say that such a system would be suitable in every case.

However, we may mention certain systems which would be suitable under certain circumstances and deal with them as typical examples.

I have some other observations to make as regards the point so well dealt with by Mr. Bonnevie, who has summarised the information which he has received, especially as regards rails.

The reporter appears to recommend the 60.48 lb. per yard rail. This is a case in point.

I could mention lines on which we have 40.32 lb. rails which carry axle loads of 14 t.

I cannot agree therefore to a summary which considers that it is desirable to have 60.48 lb. rails to carry an axle load of 9 t.

If traffic justifies this, it may be beneficial, but it is not indispensable, a 40.32 lb. rail would be sufficient.

In France, on the banks of the Meuse, we have a railway which serves the suburbs of Verdun, which is laid with 32.25 lb. rails and which carried, during the whole of the war, the weight of any of the narrow gauge locomotives and all kinds of transport.

I do not say that this is perhaps altogether desirable, but certainly the 60.48 lb. rail is not indispensable.

As regards curves, Mr. Bonnevie has stated that it appears to him, as a general rule, these may be as sharp as a 1 1/2 chains radius.

Well, Gentlemen, you have all had a

large amount of experience on this subject, and I do not believe that you will agree to this.

**Mr. Bonnevie.** (In French.) — For the metre gauge.

**Mr. F. Level.** (In French.) — I agree.

We believe that a  $1\frac{1}{2}$  chains radius may be allowed, but it is not to be recommended, unless considerable difficulties are going to be encountered as regards hauling the trains.

**Mr. Bonnevie.** (In French.) — I said that the radius might be as small as  $1\frac{1}{2}$  chains.

**Mr. F. Level.** (In French.) — We have that with the Vignoles rail.

**Mr. Philippe.** (In French.) —  $1\frac{1}{4}$  chains.

**Mr. F. Level.** (In French.) — On ordinary lines?

**Mr. Bonnevie.** (In French.) — No, in difficult country.

**Mr. F. Level.** (In French.) — Therefore, at extremely low speeds and with check rails.

This would give rise to difficulties as regards haulage and cut down the length of a train to definite limits.

**Mr. Bonnevie.** (In French.) — In order to avoid buildings.

**Mr. F. Level.** (In French.) — Or in stations.

**Mr. Bonnevie.** (In French.) — Rarely in stations.

**Mr. F. Level.** (In French.) — Here is a more serious objection: It appears that continuous brakes are recommended.

This no doubt has its advantages, especially from the point of view of the control office.

However, there are a large number of lines where continuous brakes are not used and where these are certainly not indispensable.

The lines of which I was speaking a few moments ago and which have to deal with considerable traffic have no continuous brakes.

**Mr. Bonnevie.** (In French.) — We do not advocate these.

**Mr. F. Level.** (In French.) — It is a point in question; on general principle we should not appear to recommend them.

**Mr. Bonnevie.** (In French.) — I have not recommended them.

**Mr. F. Level.** (In French.) — I now come to the question of catch points.

A certain number of large railways insist on catch points where standard gauge lines are crossed.

There again, Gentlemen, it is the large companies who oblige us to take these steps which I consider is rather drastic, but to which we have to agree when they insist.

For my part I should not recommend this practice. I cannot associate myself with the draft summary which says that catch points are to be recommended.

These, Gentlemen, are some of the points on which the section have to come to a decision, and I will speak again on these questions during the discussion.

**Mr. Philippe.** (In French.) — I should like to make some observations as regards the points which Mr. Level has brought forward on the question of the weights of rails.

I believe that it would be well to follow the resolutions which Mr. Bonnevie has put forward as regards the use of heavier rails than those which are used



up to the present in the construction of new lines.

The President. (In French.) — Certainly.

Mr. Philippe. (In French.) — The National Company of Local Railways in Belgium commenced by laying its lines with 43.34 lb. per yard rails, but afterwards adopted 46.37 lb. rails. At the present time it uses rails as heavy as 60.48 or 64.50 lb., in accordance with the importance of the lines.

In collaboration with Mr. Lembourg, General Secretary of the « Société nationale des chemins de fer vicinaux de Belgique », we have compared the pre-war price of the different kinds of track.

In comparing the 46.37 lb. track (rails 29 ft. 6 in. long) with the 60.48 lb. track (rails 59 feet long), we find that including the reduction in the number of fish plates (only half the number of fish plates required), and of the reduction in the number of sleepers, the difference was only about 500 francs per kilometre.

At the present time these figures are naturally considerably changed on account of the increase of price of all kinds of material.

It is obvious that for a line with an appreciable traffic it is preferable to construct a strong track.

As regards the continuous brake, it is necessary to be very careful. We should distinguish between local lines with small traffic and secondary lines with important traffic on which separate passenger trains are run.

In that case there is no reason why the continuous brakes should not be used, but on lines where the importance of the traffic does not necessitate passenger trains only and where it is necessary for economical reasons to run mixed trains,

continuous brakes are not to be recommended.

One should in such cases employ the number of brakemen required to insure safety.

It is obvious that if we are to use continuous brakes in all cases, it will be necessary to fit all the rolling stock, both coaching stock and wagons, and we shall have continual failures with the brakes of wagons which are seldom used, and this will give rise to great inconvenience.

I should like to obtain information from our colleagues as regards locking of points on the main lines or on those giving access thereto.

In Belgium, we use special padlocks, but it must be admitted they are not entirely satisfactory.

I have often been concerned to find that it is easy to remove a padlock. Is there not some better method of locking which prevents padlocks from being removed?

I should be glad if our colleagues would give me any information on this subject.

The President. (In French.) — It is not necessary as a general rule to use a continuous brake.

As regards locking of points, this method does not give absolute safety.

The question should be further looked into.

Mr. Forges Davanzati, Transport Federation, Italy. (In French.) — I have three observations to make.

First, we are asked to discuss methods of safe working which are specially applicable to light railways.

The « dispatching » system has been mentioned. This is employed I believe

in America on lines carrying heavy traffic.

*Second*, as regards the continuous brake; I would say that having to manage a line having fairly steep gradients (1 in 33.3), and of a considerable length, on which passenger trains fitted with continuous brakes are run, there was a period, during the war, in which certain trains were not in a fit condition to operate the continuous brake. Naturally our train crews were very concerned about this matter. I would point out a psychological consideration which is of importance: I believe that train crews feel much more confident with the continuous brake.

I do not say that the absence of the continuous brake may be such as to cause serious accidents, but I repeat the psychological effect on our train crews ought not to leave us indifferent on this point.

I am therefore one of those who believe that the continuous brake is desirable and useful for passenger trains on light railways.

*Third*, as regards the padlocks; I can give you the following information. I regret that I am not fully acquainted with the details of construction so as to be able to give you information from a technical point of view and thus reply satisfactorily to Mr. Philippe who wishes for information on this subject.

For safety locking of points, the Rizzi locking device is largely used in Italy, and has given good results.

On the little railway with which I have been connected for a long time; we also have padlocks which have not given us any trouble.

Being a Director (and not the engineer who deals with details of this kind), I regret I am not able to give you more

precise information. I would confine myself to saying that on our railway we have padlocks which give us no anxiety. If you wish, I should be glad to give you further information later.

Mr. Philippe. (In French.) — It is very kind of you; I will get into touch with you; thank you very much.

Mr. de Souza, Ministry of Commerce and Communications, Portugal. (In French.) — I have a few remarks to make.

Mr. F. Level. (In French.) — Gentlemen, the acoustic properties of this hall leave a great deal to be desired, or the noise which is going on in the passage and also the private conversations which are taking place in this hall frequently prevent us from hearing all that the speakers have to say. I should like to point out that our discussions are taken down in shorthand to be published *in extenso*; I must therefore ask you to speak as clearly and as loudly as possible.

The President. (In French.) — I now call upon Mr. de Souza.

Mr. de Souza. (In French.) — As regards the weight of the rails, we commenced in our country by using too light a rail.

As regards the 40.32 lb. rail, it was fairly satisfactory, but the Government stipulates, for new concessions, that rails of 48.38 lb. should be used. We think that this should be sufficient. As a general rule, experience proves that it is not necessary to go beyond 48.38 lb.

As regards the locking of points, this is rather a debatable point; we have had to carry on a very lengthy controversy in order to avoid having regulations which are not necessary.

Mr. Thonet, Lombardy and Romagnes Tramways, Italy. (In French.) — Where is that?

Mr. de Souza. (In French.) — In Portugal.

We have sufficient safety devices to avoid the necessity for signals being insisted upon.

As regards the hand brake, the Government insists upon its use on certain lines. We have been able in this way to effect an economy in staff and we have had no accidents.

As regards curves, in exceptional cases these are as sharp as 3 chains radius on the main line.

I should say that sometimes travellers, who are more than ordinarily sensitive, suffer from sea sickness, if I can so call it, when the train is travelling at a certain speed. (*Laughter.*)

Mr. Wood, Pennsylvania System, United States of America. — Mr. Forges Davanzati has just said that in America the train despatching system is only used on lines with a heavy traffic; I think this is hardly so. « Train despatchers » are employed on a large number of lines where there is very little traffic.

The President. (In Italian.) — Do you think that the « train dispatcher » system, assuming a telephone is used, would be more suitable for light railways than for lines with heavy traffic?

Mr. Wood. — As a general rule there are no light railways in America, but there are a number of electric tramways which employ the « train despatcher » system by means of the telephone.

Mr. F. Level. (In French.) — As regards the statement made by Mr. Forges Davanzati, namely, that on the line which he controls the driver feels more con-

fident with a continuous brake. I would point out that this is a point like those which I referred to a little time ago.

I will quote the case of a railway which is not very long, but which is entirely on a gradient of 1 in 22.2 (this in certain points is even as much as 1 in 21.8 or 1 in 21.3). I believe that this is the railway with the steepest gradient in the world for steam traction, without any special device, that is to say, by simple adhesion; I refer to the little railway from Enghien to Montmorency.

On this railway, which has been opened for fifty years, we have never used a continuous brake, and we have never had the least accident. There is a vacuum brake upon the engine and a hand brake on the brake van, and if necessary on the last carriage in the train.

From a psychological point of view, we have always been unwilling to use continuous brakes on this line, because we consider that if the driver thought that at any moment he could easily stop his train, he would allow it to run at too high speeds, and if his brake should fail, an accident would occur. It is entirely for this reason that we have always turned down the continuous brake.

I would add that this point is bound up in a technical consideration as regards the permanent way. We have frequently found that however carefully the fish plates are screwed up and however carefully the spikes holding the rails on to the sleepers are driven in, when the driver applies his brake too hard, the rails creep and a loosening of joints occurs which it is difficult to overcome.

I therefore cannot associate myself with a resolution which recommends the continuous brake.

Mr. Thonet. (In French.) — In Mr. Bon-



nevie's final summary it mentions in the first paragraph a reduction of speed as a means of ensuring safety.

**Mr. Bonnevie.** (In French.) — Not to run at excessive speeds.

**Mr. Thonet.** (In French.) — We must allow some latitude in this respect.

In Italy we have always advocated higher speeds for local railways, because the Italian Government has always been inclined to reduce the speed.

We have been able to obtain speeds of 15 to 25 miles, but a large number of difficulties have been placed in our way.

I do not want anyone to interpret this paragraph in such a way as may be unfavourable to us, when at a later date the existing laws are modified.

**The President.** (In French.) — I do not agree with Mr. Bonnevie on this subject.

**Mr. Thonet.** (In French.) — You are quite right in this respect, as it is a serious matter. A government might say, in order to ensure safety: « You will only run at 12.5 miles per hour ».

I would repeat that in order to obtain speeds of 15 to 25 miles, we have had to put up a stiff fight.

This has become an accepted practice to-day and appears in the regulations, but is not as yet strictly legal, consequently it would be as well not to make a formal statement on this subject which might be turned to our disadvantage.

If trains were to proceed at a walking pace, it is obvious that perfect safety would result. I therefore propose a rather broader wording.

The question of rails has been spoken of. I do not altogether agree with Mr. Level on this subject. In Italy, in the first place, rails of 36.30 to 40.32 lb.

were used. This was the usual practice thirty or thirty-five years ago, but about ten years after, traffic increased, and the 36.30 lb. rail has worn down to not heavier than 32.25 lb.

The results have been unsatisfactory as regards the rail joints and the maintenance of the track.

Both in the case of large as well as in that of small railways it is necessary to look ahead.

I am therefore opposed to the adoption of a 36.30 to 40.32 lb. rail. One should lay rails approximatively 46.37 to 60.48 lb. in weight for new lines.

The expense entailed in doing so will be compensated for by the economy realised in track maintenance.

**Mr. F. Level.** (In French.) — We agree with this as regards new lines.

**Mr. Thonet.** (In French.) — Certainly, but also for relaying purposes.

In Spain, at the present time there are secondary lines which are laid with rails varying from 64.50 to 70.55 lb. The steam tramway lines at Tessin in Italy have been laid with 36.30 lb. rails. In 1895, we adopted for the lines of the North of Milan Railway, 72.60 lb. rails with angle fish plates with six bolts. Since then the traffic has increased, and at the present time we are very satisfied with our policy, because with a lighter rail we should not have been able to cope with the development of the traffic or to have employed heavier locomotives.

Long ago we took steps to strengthen the track, especially the weight and length of the fish plates, by adopting the six bolt pattern.

I would repeat that it is necessary to increase the weight of the rail, especially in view of future developments and from a maintenance point of view.

As regards the « dispatching » system. The Belgian Government have employed this on the Brussels-Namur line, which has to deal with a heavy traffic. The information obtained two months ago is conclusive, the economy effected being considerable. I have been very much struck by figures which have been quoted.

The same is true on certain large railway systems in France.

We should obtain information from all the light railways of the whole world; especially those worked by the Americans.

Mr. Philippe. (In French.) — Except the German railways. (*Laughter.*)

Mr. Thonet. (In French.) — Certainly. We should circulate a questionnaire in America.

The President. (In French.) — They have no light railways.

Mr. Thonet. (In French.) — I was at the International Congress at Washington in 1905. I have seen the American secondary lines, they are not worked as ours are and can hardly be called light railways.

As regards the « dispatching » system. If we wish to reduce the cost of working a railway carrying a certain traffic, and at the same time ensure safety, it is necessary to put all the auxiliary services under the control of one man. Great economy in working can be realised by employing a telephone which can be used by any of the staff.

I ask that a question be put on the agenda for the next Congress so that a questionnaire can be circulated in all countries.

Mr. Vallecchi, *secretary*. (In Italian.) — If the President will allow me,

I would like to speak for a moment on the question of the weights of rails as far as concerns light railways and tramways, since in Italy these are very similar, and there is no distinction between tramways and light railways.

Present day principle and practice as regards the weights of rails tend towards heavier rails, and for my part I think it is important to make a distinction between tramways, electrified light railways and steam railways, because for electric tramways I should draw attention to the fact that we have not only got to consider the weight of the electric locomotive, which is very considerable, but also the question of the return of the current, which as a rule, at any rate for the continuous current system, takes place through the running rails.

Also, these tramways and light railways sometimes run through towns — this is the case at Mantua and other Italian towns. We have also the paving question, which as a rule gives trouble, if the rails are too light.

Last year I constructed, at the time when prices were very high, some lines partly urban and partly suburban in the Taranto region. After looking into the question of the cost of building the line, we decided to adopt 72.60 lb. rails for the urban portion, and 54.43 lb. rails for the suburban portion, taking into consideration the return current through the rails and the weight of our locomotives, and also keeping in view the probable increase in traffic, which Mr. Thonet has mentioned.

Mr. Michaut, General Society of Light Railways, France. (In French.) — I would like to say a few words on the continuous brake.

The General Society of Light Railways possesses a large variety of lines amount-

ing to nearly 1 870 miles scattered through every part of France, some being standard gauge and others metre gauge.

In accordance with the regulations of the concessionnaires, some lines have continuous brakes, but quite half the lines do not have them.

I am giving you results of our experience, which are supported by statistics. Safety is at least equally great on lines which have not continuous brakes as on the others.

If I did not fear that I was stating a paradox, I would say there are more accidents on the lines which have the continuous brake than on those which have not got it.

This however would be going too far, because the number of accidents is so small, both with the continuous brake as on lines without it, that one cannot draw any conclusion as to the results of the presence or absence of the continuous brake.

We must rather attribute the accidents (or if you prefer it, the incidents), to inattention on the part of the driver or a failure to carry out his duty.

There is a psychological fact which has been mentioned by my excellent friend, Mr. F. Level.

It is necessary that the driver should realise that his watchfulness and vigilance must be constant, because he has not at his command a device which is capable of avoiding all kinds of accidents.

However, in the case of new lines, there is a tendency to insist upon continuous automatic brakes; at the same time this practice is not absolutely indispensable.

There is not a great deal of difference as regards the question of safety. There is, however, a point about the use of the continuous brake; it allows the average speed to be increased.

There is another advantage in cases where shunting is carried out, but as regards safety there is nothing in it.

If a vacuum brake is fitted to a locomotive, and only on the locomotive (as in the case of the Gironde Railway), this is merely done with the object of facilitating shunting and obtaining greater rapidity in this respect, and not from the point of view of safety.

As regards the weight of rails, it is obvious that the heavy rail has no disadvantages either as regards its period of wear or from the point of view of maintenance of the permanent way and rolling stock. It produces less shocks.

Allow me to say, however, that the experience of our Company did not lead one to favour the adoption of too heavy a rail.

On the standard gauge Gironde railway, which has a length of 186 miles, it has never been thought necessary to replace the 50.40 lb. rail by a 60.48 lb. rail, or by a rail heavier than 60.48 lb., although these lines carry a large amount of traffic, since they carry pit props consigned to Bordeaux for England.

Mr. Thonet. (In French.) — Approximately how many tons a year?

Mr. Michaut. (In French.) — A minimum of 350 000 t., and in certain years 500 000 t.

These are not lines in undulating countries; they are normal. However, I would repeat that these lines are comparatively speaking heavily loaded, and we have never had to consider replacing the original 50.40 lb. rails by those of 60.48 lb.

Moreover, the original 50.40 lb. rails were of iron. We have gradually replaced these by 50.40 lb. steel rails. It is certain that if experience had shown



that the 50.40 lb. rail was insufficient, one would have replaced them by a heavier rail, but this was not done, although good opportunity offered itself.

Mr. Thonet. (In French.) — That is not proved, it depends upon what the future brings forth.

Mr. Michaut. (In French.) — It depends on the speed.

Mr. Thonet. (In French.) — It is the work of Penelope.

Mr. F. Level. (In French.) — It is a question of speed.

Mr. Michaut. (In French.) — Another example : In the department of Meurthe and Moselle, Allier, and Somme, the metre gauge railways have been laid with 40.32 lb. rails.

Mr. Thonet. (In French.) — One should have raised the extra money and laid 48.38 lb. rails in the first place. There is no use in quoting cases like this. As regards the future, one should always anticipate development in the traffic and economy from a maintenance point of view.

Mr. Michaut. (In French.) — I conclude by repeating that experience has not shown the necessity of increasing the weight of rail up to the figure proposed.

Mr. Forges Davanzati. (In French.) — I think, Gentlemen, that the time has come to propose the closure of the general discussion and also to put the final summary of the report to the vote. Appropriate observations may be made when each of the paragraphs are dealt with.

Mr. Bonnevie. (In French.) — There are a few points on the subject of which I should like to say a few words.

Mr. Level has mentioned a minimum radius of  $1\frac{1}{2}$  chains. This radius is obviously only used in passing buildings where it is not possible to use a larger radius without incurring considerable expense.

As regards the weight of rails, I have been rather surprised to hear any oppositions to increasing the weight of the rail, because as I have said, all the information which I have received has shown that there is a tendency, which is quite general, to increase the weight and even to exceed the figure which I have mentioned.

If I gave a weight of 60.48 lb., it is because we have considered that this weight is necessary to obtain a sufficiently strong track which will call for less maintenance and also in view of the possibility of electric traction.

From a point of view of the return current, this is practically indispensable.

I would repeat that if you anticipate having electric traction on a light railway, you must lay 60.48 lb. rails.

We have found that the economy which is effected from the point of view of track maintenance by using heavier rails is considerable, consequently I see no reason why this rail should not be adopted as a general rule.

As regards catch points, we had a long discussion in 1886-1887, when the Belgian State Railways insisted upon catch points at level crossings over the standard gauge railways. In our country these are compulsory. If a train is derailed, it is the fault of the driver.

The great advantage of catch points is that the light railway takes no risks. If an accident happens, it is not the fault of the light railway, but of the main line whose signalman controls the signals.

Mr. Caufriez, *vice-president.* (In

French.) — With the catch points placed on the light railway, the consequence of any such mistake would be very much less serious.

**Mr. Bonnevie.** (In French.) — Certainly, and one should stop before approaching the catch points.

As regards the continuous brake, I have not recommended its use.

No doubt on lines in very hilly country, the continuous brake may be very useful. However, in the information which has been sent in, I have noticed that where continuous brakes are used, the hand brake is still retained, which may be used in case of failure of the former. However, this safeguard sometimes fails. In Belgium, for example, where the main line railways use the continuous brake, it has sometimes happened that the driver, relying on the continuous brake, has run into the buffer stops in the station, due to faulty action of the continuous brake.

**Mr. Michaut.** (In French.) — This is the case of a train fitted with the continuous brake running into a station. However, even on the open line the use of the continuous brake is no safeguard against accidents even when the brake is in good working order.

I would repeat that we have had more accidents on the open line on the lines which are provided with the continuous brake.

**Mr. Bonnevie.** (In French.) — As regards « train dispatching » on a single line light railway on which there is a heavy passenger or freight traffic (as is the case in our country during the sugar beet season), the « dispatching » system produces very good results. It may be operated by means of the telephone.

Safety is secured to a high degree under these conditions.

**Mr. F. Level.** (In French.) — Mr. Thonet having left the meeting has handed in a proposal which seeks to modify the opening part of Mr. Bonnevie's resume, the esteemed reporter proposes the following :

« The most general and economical method of securing safety consists in limiting the speed, which however is as a rule stipulated by the terms of the concession. »

Mr. Thonet proposes a wording which is shorter and crunched in more general terms. It is as follows :

« Safety of trains on light railways is provided for by the ordinary brakes which are in use at the present time, but for exceptionally high speeds, the continuous brakes may be recommended in certain cases for passenger trains. »

**The President.** (In French.) — I put Mr. Thonet's proposal to the vote.

**Mr. Bonnevie.** (In French.) — It seems to me rather narrow.

**Mr. F. Level.** (In French.) — It is said that safety on light railways is assured by the ordinary brakes which are in use at the present day.

**Mr. Bonnevie.** (In French.) — Certainly; that was not quite clear to me.

**Mr. Michaut.** (In French.) — It is said that continuous brakes might be recommended for passenger trains.

However, on a large number of light railways there are passenger trains which also carry goods.

**Mr. F. Level.** (In French.) — Let us say : « For trains which are exclusively for the use of passengers. »

**A Delegate.** (In French.) — I do not see why one should say : « Exclusively for passengers ».

**Mr. F. Level.** (In French.) — Should we delete exclusively? (*Yes, yes.*)

**The President.** (In French.) — We will pass on to the following paragraphs.

**Mr. F. Level.** (In French.) — I propose to add to Mr. Bonnevie's summary the words : « Staff system ».

**Mr. Forges Davanzati.** (In French.) — I should like the whole of the paragraphs of the final summary to be read.

**Mr. F. Level.** (In French.) — They are as follows :

« 1° The safety of trains on light railways is adequately provided for by the ordinary brakes at present in use, but for exceptional speeds continuous brakes are recommended, in certain cases, for passenger trains;

« 2° Special arrangements need not be made for the protection of level crossings except in exceptional circumstances;

« 3° For lines over which trains are only run at low speeds the safety methods adopted for the protection of the stations need, in general, only be very simple. The running of the trains may be controlled by telephone, staff, electric bells, etc.

« When, however, there is a section in which a single line has several branches running on to it, it is always desirable to have a complete and effective control. Where possible such control should be effected without the services of a signalman in a box;

« 4° The points giving access to the principal line ought to be locked in a safe and convenient manner. » (*Cries of no, no.*)

One might say if you prefer it : « in a simple and sure manner ». (*Agreed.*)

« 5° Interlocked catch points may be fitted on light railways at places where there is a level crossing over main lines carrying heavy traffic. »

**The President.** (In French.) — Does this wording give rise to any observations? (*No, no.*) It was therefore accepted.

#### Suggestions for the next session of the Congress.

**The President.** (In French.) — We have one more matter to deal with, namely, to decide upon the questions which you wish to put upon the agenda for the next session of the Congress.

I think it would be as well to retain the questions which we have been discussing, but to put these in more definite form.

Question XVII might remain as it is. (*Agreed.*)

As regards question XVIII, one should say : « Working of light railways from a commercial point of view and relationships with the powers granting concessions. »

Mention has been made in the discussion of the relationship of the authorities granting concessions, which are matters which have not been previously dealt with.

As regards question XIX, it is worded :

« Traction by steam rail cars and by electricity. »

There is in electric traction certain features which are peculiar to light railways.

As regards question XX, I propose to say :

« With the dispatching system, staff system, etc. »



**Mr. Biraghi, Local Italian Section.** (In French.) — That cannot be right. It deals with the question of current, etc.

**Mr. F. Level.** (In French.) — In accordance with the proposal which has just been made by the President, I ask to add another, not in my name, but in the name of the Chinese representative, who is not able to be present at the meeting this morning.

Our esteemed colleague has noticed that since 1892, no discussion has taken place in the various sessions of the Railway Congress of the methods which should be followed in the construction of light railways, especially in the case where they are intended to open up new countries.

This aspect of the case is of interest to China and to other countries, and our manufacturers might benefit by it.

One might therefore say :

« Methods of constructing light railways which are intended to open up new countries. » (*Cries of « approved ».*)

**Mr. Forges Davanzati.** (In French.) — It seems generally agreed that we may well accept the wording proposed by the esteemed representative of China, but it has been thought that it might be possible to combine in the same question the subject of commercial working and technical details of light railways and all which pertains to the relationship between the authorities granting the concession and the companies which work the lines.

I do not think that this is possible. We are dealing with totally different questions. The questions of relationship between the conceding authority and the company working the line on the one part, and of that which pertains to the economy and financial conditions of the

company that works the light railways on the other should be treated separately. This is a very important point.

Since electric traction will certainly figure on the agenda for the next session of the Congress, it should be dealt with from the point of view of light railways.

We might pass a resolution on this point.

The Executive Committee will see that it is possible to appoint a reporter, who dealing with electric traction, will do so from the point of view of light railways.

I have yet to make a recommendation.

Mr. Level has informed us, several days ago, that in the preceding sessions, care was taken to draw up the programme of work in such a manner, that if a question happened to be of interest, both to the light railways and to other railways, it might be dealt with by both simultaneously.

It would be a good thing therefore to ask the Permanent Commission to make it possible for the sections to unite under these conditions. That is what is done at the present time in the case of a question which is of interest to us. We have an agreement on this point with the President of the 4<sup>th</sup> section, but in a general way it would be a good thing to decide that two sections might always unite to examine together certain points.

I propose therefore to say in this case :

« The 5<sup>th</sup> section recommends the Executive Committee to put on the agenda for the next session the following questions.

« I. — Methods of constructing light railways intended to open up new countries.

« II. — Operation of light railways. Methods to be adopted from a commercial point of view and relationships with the authorities granting the concession. »

**A Delegate.** (In French.) — Is it not useless to study the relationship between the company working the line and the powers granting the concession merely from the point of view of operation? It is necessary to consider relations from all points of view.

**Mr. Biraghi.** (In French.) — Let us say: « Methods of operating light railways ». That includes everything.

**The President.** (In French.) — From an economic and commercial point of view.

**Mr. Biraghi.** (In French.) — Certainly.

**The President.** (In French.) — One might say: « Means of working light railways from commercial and economic points of view. »

**Mr. Biraghi.** (In French.) — Or better still: « From commercial and technical points of view. »

**The President.** (In French.) — « III. — Special methods of traction of light railways. Steam and petrol rail cars. Electric traction. »

**Mr. Biraghi.** (In French.) — There are rail cars which are neither steam or petrol.

**A Delegate.** (In French.) — Let us say: « Rail cars in general. »

**The President.** (In French.) — « IV. — Safety methods on light railways (systems of controlling train movements, such as « train dispatching », staff system, etc.) »

Mention has been made of the weight of rails, but this is not strictly speaking a question of safety.

Methods of securing safety should deal with train movements, signals, etc.

The final text of the proposed questions will therefore be as follows:

« I. — Methods of constructing light railways for opening up new countries.

« II. — Relationships between concessionnaires of light railways and the powers granting the concession. Economical and financial considerations.

« III. — Special method of traction on light railways. Rail cars.

« IV. — Methods to adopt in working light railways from a technical point of view. »

As there is no opposition, this proposal is therefore adopted.

#### Closing of the 5<sup>th</sup> section.

**The President.** (In French.) — Gentlemen, we have finished our work. Before we separate, I should like to sincerely thank our esteemed reporters. (*Applause.*)

I ask you, Gentlemen, not to fail to be present at the General Meeting, because the question of admission of small railways into the International Association will be dealt with at that meeting. It is necessary therefore that you should all record your vote so as to obtain satisfaction.

In closing, I hope, Gentlemen, that you will all retain pleasant memories of your visit to Italy. (*Applause.*)

**Mr. F. Level.** (In French.) — Gentlemen, before the meeting breaks up, I ask permission to thank and congratulate, in your name, our esteemed President Mr. Tajani, for the way in which he has presided over our meetings. He has done so with all the authority which is attached to his name and with an impartiality to which you can all bear witness. (*Applause.*)

I think I am also voicing the feelings

of all you in thanking the Italian Government and also all our Italian colleagues for the courteous manner in which we have been received, and for the kindness which we have met with on the part of all those with whom we have had the pleasure to come in contact.

If the weather in Italy has not always been of the best, we shall retain nevertheless most pleasant memories of the kind, I should almost say sumptuous, reception of which we have been given.

We who are French, in particular, knew beforehand that we were absolutely certain of meeting with a hearty reception from our Latin sister, but it has been very pleasant to us to experience this, and we must therefore specially thank you Italian gentlemen, which I do from the bottom of my heart. (*Applause.*)

**Mr. Forges Davanzati.** (In French.) — We address the expressions of our gratitude, not only to Mr. Tajani, but also to Mr. Level and his colleagues. The task which they took up was a heavy one, and they have dealt with it in a way which deserves all our praise. (*Applause.*)

I wish I had a better knowledge of the French language so that I might suitably express my feelings.

Meetings of this kind are always an excellent thing to remove misunderstandings, which are often more apparent than real.

We have been pleased to notice in fact that on many points we have found ourselves in agreement as if we belonged to the same country and if we had studied at the same school. This is very important from the point of view of material and intellectual relationships between various peoples. (*Applause.*)

**Mr. Biraghi.** (In French.) — Gentlemen, it would be a good thing to foster collaboration of all sorts so that we may come to an agreement as regards the solution of certain questions. For this purpose we should keep in constant touch with each other, especially by correspondence. We shall thus obtain useful and practical results. (*Applause.*)

**The President.** (In French.) — We are all in agreement on that point. (*Hearty applause.*)



# DISCUSSION AT THE GENERAL MEETING

Meeting held on 28 April 1922 (morning).

Mr. R. DE CORNÉ, HONORARY VICE-PRESIDENT, IN THE CHAIR.

GENERAL SECRETARIES : Mr. J. VERDEYEN; Mr. E. FRANZA; Sir Henry FOWLER.

ASSISTANT GENERAL SECRETARY : Mr. N. GIOVENE.

Sir Henry Fowler, *general secretary*, read the

## Report of the 5<sup>th</sup> section.

(See *Daily Journal of the session*, No. 3, p. 5.)

« Mr. BONNEVIE summarised his report and gave the results of some supplementary experiments which had been carried out.

« A discussion and exchange of views took place in which the following were the principal speakers : MESSRS. PHILIPPE (*Nord-Belge*), F. LEVEL (*principal secretary*), FORGES DAVANZATI (*Italian Federation of Transport*), DE SOUZA (*Portuguese Government*), WOOD (*Pennsylvania System*), THONET (*Lombardy and Romagnes Tramways*) and MICHAUT (*French General Association of Light Railways*). The following text was adopted. »

The President. — This is the

## Final summary.

« 1° The safety of trains on light railways is adequately provided for by the ordinary brakes at present in use, but  
« for exceptional speeds continuous

« brakes are recommended, in certain cases, for passenger trains;

« 2° Special arrangements need not be made for the protection of level crossings except in exceptional circumstances;

« 3° For lines over which trains are only run at low speeds the safety methods adopted for the protection of the stations need, in general, only be very simple. The running of the trains may be controlled by telephone, staff, electric bells, etc.

« When, however, there is a section in which a single line has several branches running on to it, it is always desirable to have a complete and effective control. Where possible such control should be effected without the services of a signalman in a box;

« 4° The points giving access to the principal line ought to be locked in a simple and sure manner;

« 5° Interlocked catch points may be fitted on light railways at places where there is a level crossing over main lines carrying heavy traffic. »

— The general meeting ratified this summary.

## COMPILATION OF RULES AND REGULATIONS OF THE ASSOCIATION

### Preliminary document.

Report, by J. VERDEYEN. (See English edition of the *Bulletin* of February 1922, p. 305, or separate issue [with red cover] No. 57.)

### DISCUSSION BY THE SPECIAL SECTION

The report of the discussion was published in the August 1922 number of the *Bulletin of the International Railway Congress Association* (see p. 1173) together with the text of the draft Rules and Regulations presented to the General Meeting.

### POINT OF ORDER

discussed by the 5<sup>th</sup> section at the meeting held on the 25 April 1922 (morning),  
Mr. F. Tajani, president, in the chair.

The President. (In French.) — Mr. F. Level has a communication to submit to the meeting.

Mr. F. Level, *principal secretary*. (In French). — Gentlemen, you will have read in the *Daily Journal of the session*, which was distributed this morning, that the Special Section appointed to deal with the wording of the Rules and Regulations of the new Association has had under consideration a modification which, if adopted by the General Meeting, will have an appreciable effect on the number of companies and particularly of the small companies represented in the International Association.

We have considered this question in collaboration with several of our Italian and Swiss colleagues who are directly affected by this modification; and in this connection I may perhaps be allowed to

express my personal opinion : It appears to me that it would be extremely unfortunate, following immediately on the cordial reception which has been extended to us in Italy, to adopt a measure the consequences of which (evidently unforeseen) would be to exclude from the Association the greater number of the Italian railways. It is quite certain that the Permanent Commission did not intend this, and that it is a result which had not occurred to them. None the less, we have been considering whether it would not be advisable to bring this point to the notice of the President of the Association, and we have drafted a letter which I will now read to you; if you approve of it, you can authorise your President and Principal Secretary to sign it on your behalf in order that it may be delivered to-day. The matter is urgent as the Commission meets again tomorrow.

The draft letter reads as follows :

Rome, 22 April 1922.

*To the President of the International  
Railway Association.*

Sir,

May we be permitted to bring to your notice, before the holding of the General Meeting, the situation which would be created, particularly as regards the 5<sup>th</sup> section, if the Rules and Regulations of the Association were modified in so drastic a manner as is now proposed.

It would appear that it is proposed to exclude from the Association any company having less than 200 km. (124 miles) of line, unless the receipts of such company should exceed, or at least equal, 15 million gold francs.

We consider it our duty to point out that such a limitation would lead to nothing less than the suppression of the 5<sup>th</sup> section, to whose labours we owe the greater part of the progress which we may have made up to the present. Their work would become impossible, as it could only be carried on with the co-operation of a very limited number of companies, which would not be representative of all countries, and which in reality would be far from representing the most important sections of our industry.

It is indisputable, in fact, that the importance of any particular company from the point of view of the advantage to be derived from its taking part in our discussions or sharing our joint labours, cannot be measured merely by its mileage; and that, further, to fix the minimum receipts at 15 millions would be to exclude many such companies.

Thus, for example, if the suggested modification were adopted, the result would be that companies having a length of line of 200 km., but a kilometric receipt of only 5 000 fr., would be retained in the Association, whereas companies having kilometric receipts of

thirty, forty, or fifty thousand francs — which is quite often the case with small companies — would be excluded merely because their « mileage » did not amount to 200 km.

These latter companies, some of which have receipts amounting to more than 100 000 fr. per kilometre, are, however, from the professional point of view with which we are concerned, a source of information and valuable experience which it would be extremely regrettable to lose.

At a period when, from every point of view, progress and simplification in working are more than ever sought after, it must not be forgotten that in many cases it is in the working of the average size railways that such improvements have had their birth.

It is therefore desirable, even in the interests of the larger companies, that collaboration between experts should remain as widespread and inclusive as possible.

It may not be out of place to remark in this connection that it is precisely in these small companies that experts are often found who combine in a single person a knowledge of various branches of the service, the restricted organisation of such companies making it necessary to entrust the higher positions to men who have knowledge of this comprehensive character.

On the other hand, questions frequently arise in practice which are regarded from a different aspect by the large and small companies respectively; and the point of contact afforded by the Congresses makes it possible to consider, and very often to solve, these difficulties in cordial collaboration, with a wider vision of the interests involved.

The proportion of small companies in all countries is now so high compared with the large lines that this consideration cannot be overlooked.

We realise that it may be advisable to limit somewhat more strictly than



has hitherto been done the right to enter the Association, but we consider that it would be advisable, in the interests of all concerned, to adopt a more generous and elastic formula, such as would not lead to the elimination of the greater proportion of the small railways of all countries.

We consider that this result could be equitably attained in a constitutional manner by adopting the minimum of 100 km. (62 miles) proposed in the draft of new Rules and Regulations which was communicated to members in advance as being that upon which the present General Meeting is called to decide.

Bearing in mind the desirability of retaining valuable expert collaboration, it would perhaps be advisable to provide also for the admission of small companies which have a large volume of traffic; for example those which on a length of say 50 km. (31 miles) earn receipts of from thirty to forty thousand francs per kilometre.

The above are the general observations which we desire to bring to your immediate notice, and which we beg you to communicate to the Committee of the Association, at whose disposal the Bureau of the 5<sup>th</sup> section would willingly place itself if explanations or supplementary information were considered necessary.

We are, Sir...

For and on behalf on the 5<sup>th</sup> section :

*Principal Secretary,*  
(Sgd.) F. LEVEL.

*President,*  
(Sgd.) TAJANI.

Mr. Thonet, Tramways of Lombardy and Romagna, Italy. (In French.) — I agree in general, but at the end of the letter I think it would be advisable to suggest that the interview should take place before the General Meeting, otherwise it would be too late. The matter is urgent.

Mr. F. Level. (In French.) — The Permanent Commission meets to-morrow.

Mr. Thonet. (In French.) — You must arrive at an agreement before the meeting of the Commission, so that it may be possible to present an agreed text to the General Meeting.

Mr. F. Level. (In French.) We say at the beginning of the letter : « Before the holding of the General Meeting », and at the end we ask to be heard by the Commission.

Mr. Thonet. (In French.) — If you have said : « ... before the holding of the General Meeting », I approve.

The President. (In French.) — If you are all agreed, this letter shall be sent to the Permanent Commission.

Mr. Thonet. (In French.) — In the name of the 5<sup>th</sup> section.

The President. (In French.) — Certainly. (*Carried unanimously.*)

# DISCUSSION AT THE GENERAL MEETING

Meeting held on 27 April 1922 (afternoon).

Mr. R. DE CORNÈ, HONORARY VICE-PRESIDENT, IN THE CHAIR.

GENERAL SECRETARIES : Mr. J. VERDEYEN; Mr. E. FRANZA; Sir HENRY FOWLER

ASSISTANT GENERAL SECRETARY : Mr. N. GIOVENE.

The President. (In Italian.) — The meeting is now open. We have to-day to undertake the examination of the new propositions concerning the Rules and Regulations of the International Association.

From the *Daily Journal of the session* of 25 April, the delegates will already be familiar with the propositions of the Special Commission entrusted with the drafting of new Rules and Regulations. We have to give our opinion on those propositions. I must, however, point out that this Commission, at a meeting held yesterday, thought it necessary to make an addition to article 2, and to propose certain modifications in article 13. It will not be necessary to re-read the whole of the Rules and Regulations, but I will ask the General Secretary to inform us as to the nature of these modifications. The members of the Congress can afterwards express their views.

Mr. Verdeyen, general secretary. (In French.) — We have all had an opportunity of reading the draft Rules and Regulations, and the President proposes to put the various articles in this draft to the vote *en bloc*, with the exception of the third paragraph of article 2 and article 13, in respect of which amendments are proposed.

The second paragraph of article 2 reads :

« It (the Association) comprises the Administrations mentioned in the Appendix to these Rules and Regulations. »

It is proposed to add as follows :

« This list will be published later; it will comprise the Administrations which comply with the conditions laid down in the fourth paragraph of article 2, together with (as an exceptional measure) those which formed part of the former Association in 1913, if they operate at least 100 km. (62 miles) of line, with gross working receipts of at least 20 million francs per annum on the average of the last three years. »

It is proposed to rewrite the third paragraph of article 2 as follows :

« Other Administrations may be admitted under the conditions prescribed by article 5, provided that :

« 3° their system has a length of at least 200 km. (124 miles); other administrations, however, that work a system having a length of from 100 to 200 km. (from 62 to 124 miles) may be admitted if their gross annual working receipts are equivalent to at least 15 million gold francs. »

**The President.** (In Italian.) — We will now pass on to article 13.

**Mr. Verdeyen.** (In French.) — Article 13 fixes the number of delegates which administrations are entitled to nominate. It is proposed to redraft it as follows :

« ARTICLE 13. — The participating Railway Administrations shall be entitled to nominate up to fifteen delegates, according to the mileage of their system, in the following ratio :

« 1 delegate for lines of not more than 500 km. (311 miles);

« 1 additional delegate for each additional 500 km. (311 miles) or fraction thereof for lines between 500 and 3 000 km. (311 miles and 1 864 miles);

« 1 additional delegate for each additional 1 000 km. (621 miles) or fraction thereof for lines between 3 000 and 6 000 km. (between 1 864 miles and 3 728 miles);

« 1 additional delegate for each additional 3 000 km. (1 864 miles) or fraction thereof for lines above 6 000 km. (3 728 miles).

« The adhering Governments may also nominate fifteen delegates as a maximum in the proportion of one delegate for each 400 francs subscribed up to 2 000 francs, and one additional delegate for each 1 000 francs subscribed beyond 2 000 fr.

« The maximum figures quoted above do not include those members who take part in the Congresses by virtue of article 12, and whom the participating Administrations or adhering Governments include amongst their delegates.

« All delegates participate in the Congresses with equal rights.

« Delegates can, however, only be sent to the Congress by those members or adhering Governments who have belonged

to the Association for three years or have paid the prescribed subscriptions for this period. »

**The President.** (In Italian.) — Mr. Ottone will now address the meeting.

**Mr. Ottone,** National Railway & Tramway Society, Italy. (In Italian and in French.) — I wish to make a few remarks before the Congress enters into a discussion on the suggested modifications. I may state that I do not speak on behalf of any particular company, but in my capacity as delegate of the Italian Transport Federation; in other words, my concern is not with private but with general interests.

In my opinion the modifications which it is proposed to make in the Rules and Regulations should be put forward in the manner laid down by the existing Rules and Regulations. These lay down for sufficient notice to be given to permit each delegate to study any modifications proposed. This rule was observed by the Reporter who distributed, together with the preparatory documents, a draft of the proposed new Rules and Regulations, in which the former article 20 is repeated almost without alteration. We are now, however, asked to consider a modification which to a certain extent proposes to alter the internal organisation and the very composition of the Association; and these alterations (at least as far as our colleagues are aware) were only decided upon by the Permanent Commission at its sitting on the 24<sup>th</sup> instant, as announced in the *Daily Journal of the session* of the 25 April; that is to say, they were only communicated to us yesterday morning. These proposals subsequently underwent further modifications of which we have only just been made cognisant, and the nature of which we cannot fully grasp because a single hearing is not suf-



ficient to enable us to form an idea of their scope and bearing.

We are confronted by a debatable point which cannot be regarded as a question of ordinary procedure; it is a question of principle which concerns the very existence of the Association. It may be that to-day's discussion will be of slight importance, although in my opinion it will not be unimportant; to-morrow it may have an essential bearing on the very existence of the Association. The failure to follow the prescribed procedure, and the precedent thus created, may lead to very serious consequences.

Having stated this point without entering upon the main point of the discussion — because I presume that our esteemed President would wish first of all to settle this question — I would observe, speaking always from a general standpoint, that of the arguments in favour of the principal modification proposed, only one is known to me, and that through having read it in the *Daily Journal of the session* at the same time as in the public newspapers of Rome. That argument is that it is desirable to eliminate a certain number of small companies in view of their inability to be of any real technical assistance to the Association. This is a serious assertion which is certainly not calculated to simplify our task, especially when it is remembered that, whether in Italy or elsewhere, there is a tendency on the part of the public to make increasingly greater demands on the small railways, greater in fact than their original organisation was designed to meet. The matter is all the more important as this has been published under one of the most illustrious names in the railway world, viz.: Mr. Colson, whose authority is recognised throughout the world, and for whose abilities we all have the greatest respect. We

may rely upon it that this opinion will often be quoted against us, unless the Congress agrees to modify it considerably. I will not say that this opinion is unjust, but it is certainly not founded upon an exact knowledge of the nature and functions of the small railways. I may be permitted to recall, while on the subject of this alleged incapacity of small companies, that it was in one of the best-known valleys of Northern Italy (a valley very familiar to our President) that the first attempt was made, several years ago now, to build the whole of the constructive works of a line in reinforced concrete. The experiment was so daring that the Higher Council of Public Works hesitated to accept responsibility for it, and the line was built and worked at the company's own risk. I believe that this experiment, having regard to its extent (it comprised thirty-three large bridges and viaducts), was the first of its kind in the whole world. It is an example which may serve to prove that even small railways are capable of making experiments and shouldering responsibilities, which are all the more daring because in the case of a small railway they are individualised, whereas in that of a large railway they are distributed and shared. I will give just one further example, this time in Southern Italy. It is the case of a line which was electrified in the days when it was still considered rash to talk of single-phase traction. The results achieved were characterised as marvellous by French engineers who were inspecting the line on the occasion of my only visit.

I could cite numerous other examples. Throughout the whole of the war, small railways operated along the Italian front, even within range of the enemy's guns. One line provisioned the 3<sup>rd</sup> Army, and another served the Adamello. The companies greatly augmented their ordinary

services, thereby giving proof of their efficiency and adaptability, in which indeed they had and have little to learn from the large companies.

I speak of the large railways with the greatest respect, because I appreciate the important rôle which they play in our economic and social life; and I think, therefore, I have the right and that it is my duty to point out the value of the smaller systems. As far as their technical abilities are concerned, I think we must have been amply convinced of this during our visits of inspection. It is only necessary to visit any one of numerous spots in Switzerland, from Lauterbrunnen to the Jungfrau, to see things which will amaze any engineer of a large railway. It is evident that the degree of technical experience does not necessarily bear any ratio to the size of the railway system.

Without alluding to any other countries I will just recall the wonderful example of Belgium, which has always realised the importance of the small railway, which she has been instrumental in introducing in practically every country in the world. She did not consider that this policy could in any way impede technical development or progress in railway science; on the contrary she believed that it would serve their interests. I will close by asking my colleagues of the Association of Italian Railway Engineers, representing either large or small companies (the President of that Association, Mr. Lanino, being present at this meeting), whether they have ever noticed that one category is more capable than the other.

And since we have the good fortune to have as President a very eminent official of the Italian State, who has been Director-General of one of the largest

systems, who is at the same time President of the Higher Council of Public Works in Italy and has the opportunity of examining all our building or operating schemes, I will ask Mr. de Cornè whether, in the course of his long career, he has not sometimes observed that the small railways have contributed something more than what was merely due from them, even in the domain of technical experiments. (*Applause.*)

**The President.** (In Italian.) — A definite amendment has been formulated and submitted to the Congress for its consideration.

**Mr. Ottone.** (In Italian.) — My proposition is quite simple. I think discussion might be opened upon the alterations suggested by the Reporter in the report which has been distributed to us, but I do not consider it possible to discuss the propositions contained in yesterday's issue of the *Daily Journal of the session*, and still less those proposals which have been verbally communicated to us to-day. My proposition is therefore a tentative one.

**Mr. Verdeyen.** (In French.) — In conformity with article 20 of the Rules and Regulations, the suggested revision of the International Railway Association was published in the *Bulletin* for the month of January 1922. It was therefore brought to the notice of all concerned at a sufficiently early date.

In conformity with precedent, the Rules and Regulations which have been drafted have been submitted to a Commission composed of members of the Permanent Commission and of the Presidents and Principal Secretaries of the sections. It is the text adopted by this Commission which is now before the General Meeting. All the relevant for-

malities have, therefore, been complied with.

We now ask the General Meeting to vote on the propositions put forward by this Special Commission. This is the procedure which was followed when, at Milan in 1887, the Rules and Regulations were first drawn up.

As far as the admission of small, or local, companies is concerned, it may be remarked that this question has been discussed in detail by the Special Commission which drew up the propositions now before us. You may verify this by reference to the proceedings reported in the *Daily Journal of the session*, No. 6.

It must not be forgotten that at the time of the constitution of the International Association of the Railway Congress, the « Union of Economic Railways and Tramways », as we know it to-day, had not come into existence; we have, however, thought it desirable to admit, under certain conditions, the Permanent Associations or Unions of economic railway companies which exist in almost all countries.

The Commission proposes, therefore, to add to article 3 : « Permanent Associations or Unions of companies directly working railways operated by mechanical means, which include at least 1 000 km. (621 miles) of lines not yet represented in the Association, may join the Association. »

This proposition meets the objections put forward by Mr. Ottone in so far as the technical interest presented by the working of small railways is concerned.

Mr. G. Level, General Society of Economic Railways, France. (In French.) — Under article 2, regarding the composition of the Association, I propose the substitution of the year 1922 for 1913, otherwise the Germans will rejoin the Association

*ipso facto*. I do not know whether my view is shared by my colleagues, but I think it is a point which should be definitely decided.

Mr. Michaut, General Society of Economic Railways, France. (In French.) — I would like to call the attention of the General Meeting to the serious consequences which would arise by the limitation of new members of the Association to companies whose system comprises a length of at least 200 km. (124 miles), or whose gross annual working receipts amount to at least 15 million gold francs.

When we remember the opportunities which our Association affords us of a mutual study of the best means of solving technical and commercial problems of railway work, which problems are in fact common to all companies, although in varying degrees of difficulty, we shall realise that the present constitution enables the smaller companies, by participating in the proceedings of our Congresses, to utilise to their great advantage the experiences of the large companies. If the suggested limitation is adopted, this advantage will be lost so far as the great majority of the small railways are concerned. But are the advantages derived from their collaboration all on one side? May we not conceive that a secondary line, even one of very small size, may possibly add some useful little stone to the immense railway edifice?

I do not wish to labour the point, but I cannot help recalling the fact that the bogie carriage has been in systematic use, to the exclusion of two- and three-axle carriages, on certain « secondary » railways in France since 1884, whereas it was not until 1896 that the main lines began to introduce it, and then in the neighbourhoods where the smaller lines operated.

Moreover, the large railways themselves



recognise this to such an extent that several of them, charged with the working of certain narrow gauge lines, or even of standard gauge, entrust them to other companies, called « economic railway companies », or « railways of local interest ». Why? Because the working of these lines would be too burdensome for these large companies, and because an « economic company » possesses more suitable methods of working, among which I need only mention the extreme simplicity of their station book-keeping.

I venture to draw your attention to a further possible consequence of the adoption of the proposal. Let us take, for example, the « Economic Railways Company », which is the most important in France as regards the total length of its different systems, it having a total of 2 700 km. (1 678 miles) in operation. Of these systems, some are relatively simple, and it is possible over certain sections of line to reach an effective speed of more than 60 km. (37 miles) an hour; a second category presents only average difficulties; but in a third category are included lines which are difficult to work, having upgrades of 40 per mil and more, and curves with a radius as low as 35 meters (1 3/4 chains); the traction and rolling stock in this case is naturally of a different kind, and is of particular interest. Under the proposed limitation of adherents of the Association, this Company would continue to participate in your labours. But is it not possible that this situation may change? As you are aware, a concession is granted to a company, but it may afterwards be transferred to other hands; and in this eventuality you may have a certain system of less than 200 km. (124 miles) detached from the original group which consisted of 2 700 km. (1 678 miles). Under the proposed new conditions, such

a system would automatically cease to belong to the Association. Is there not something incongruous in this exclusion, when it may be that the section excluded was the one part of the group which derived real benefit from participation in the work of the Association, and the one part whose equipment and peculiarities of working presented the greatest degree of interest? Are we to deprive ourselves in the future of the assistance of certain railways merely because the total length of their lines is less than 100 km. (62 miles), and their gross annual working receipts are less than 15 million francs, ignoring the fact that these particular railways may be of such a character as to be able to render valuable service and to aid in the solution of many problems?

I would put it to you that the criterion of « mileage » and « receipts » should be examined with great care, if it is desired to avoid the loss of collaboration which might be of great utility.

Mr. F. Level, General Company of Railways of Local Interest, France. (In French.) — I had the honour of being heard by the Permanent Commission yesterday in my capacity as Principal Secretary of the 3<sup>th</sup> section, and in my remarks I put forward the majority of the arguments which you have just heard.

I think I ought to comment on one observation made by our excellent General Secretary, Mr. Verdeyen. He has said that the question is not the same to-day as it was formerly, because for some years past there has been in existence an International Union of Tramways and Railways of Local Interest, which the small companies can join with the object of studying jointly questions of mutual interest.

This International Union does actually exist, but I ought to inform you that we

are at present engaged in its reorganisation. It comprises at present urban and suburban tramways, and although some railway companies have joined it, the questions with which it deals at present are for the most part connected with tramways.

The point which it is necessary to settle is whether the « economic railways », « secondary railways », or « railways of local interest » — whatever name you may like to give them, for the name varies in different countries — have a closer affinity to the large railways than to urban and suburban tramways, from the point of view of their working. It is of course obvious that we much more nearly resemble the former than the latter.

As Mr. Michaut has very justly remarked, the large companies in the majority of cases do not themselves work the secondary lines which form part of their systems, and it would obviously be unjust for those who undertake this work for them not to be allowed to discuss with us their methods and results.

I will close my remarks by adapting a phrase which was first used in quite another connection: « If we did not exist, it would be necessary to invent us. » (*Applause.*)

The President. (In Italian.)— Mr. Verdeyen has already pointed out that the procedure followed is quite in order, and that it is in conformity with the old Rules and Regulations of our Association.

I am glad of this opportunity of assuring Mr. Ottone, who regrets that sufficient attention is not paid to the claims of small railways, that the decision in question does not in any way rest on any such lack of consideration. We all know that the small railways, in proportion to their size, have accomplished as much as

the State railways — a remark which I have already had occasion to make.

The present proposition has been actuated by motives of quite a different character. It implies no idea of hostility towards the small railways; on the contrary, for this reason, and following on a proposition of the General Transport Federation of Italy, paragraph 2 has been added to article 3 whereby the Permanent Unions of small railway companies are enabled to join the Association. Even the small companies can participate if they join a group.

Mr. Lanino, Ministry of Public Works, Italy. (In Italian.) — You will pardon me if for the sake of brevity I speak in the language used by our foreign colleagues. My Italian colleagues, who already know my Italian sentiments, will doubtless excuse me.

*The speaker then proceeded in French, as follows :*

We are faced by a continually growing movement in the direction of entrusting the working of the railways to the State and to large companies, which are apt to lose sight of the minor details of practical railway work and of economic considerations. There is less danger of this in the case of engineers belonging to small companies. For this reason alone it is necessary to remain in contact with these companies through the medium of the Congress.

Mr. Biraghi, Italian Organising Section. (In French.) — I would like to approach the question from another standpoint, and express to you the surprise I experienced when I heard of the system which we are asked to adopt.

I can understand that as regards the future it may be necessary to amend the

Rules and Regulations of an Association, but I know of no precedent for amending Rules and Regulations in such a manner as to lead to the exclusion of a number of existing members.

I can appreciate also a proposition to restrict new admissions to companies whose system has a length of at least 200 km. (124 miles), but we ought to respect the rights of existing members. We have not the right to exclude a certain number of members who were admitted under the old Rules and Regulations: they should be allowed to remain in the Association.

I therefore suggest that we should maintain the former limit of 100 km. (62 miles), or gross annual receipts of a million francs. (*Applause from a number of members.*)

Mr. Thonet, Tramways of Lombardy and Romagna, Italy. (In French.) — I would like to say a few words arising out of the remarks of my friend and colleague, Mr. Ottone, with regard to the rôle played by Belgium during the last forty years in the development of secondary railways and tramways.

I may say that if I have acquired a certain amount of experience of railway matters, it is largely because I have been privileged to attend all the International Congresses that have been held during the last thirty-five years, and to profit by the various forms of progress recorded in the publications of the Association.

It is now forty years since the introduction of secondary railways in Italy.

It is because we have taken part in the proceedings of the various Congresses that we have been able to profit by the information thus made available, that we have been able to learn what was being done in other countries, and that we Belgians have been able to construct econ-

omic railways and tramways in many foreign countries.

I am therefore in complete agreement with the remarks of Messrs. Ottone, Level, Biraghi and Lanino, as well as with the new proposition put forward by a preceding speaker.

We cannot exclude those who have acquired rights and who have worked for more than thirty-five years in the development of secondary railways and railways of local interest which meet the needs of a large section of the public.

And here arises a preliminary question.

It would be regrettable, particularly at a Congress held at Rome, to adopt amendments which were only announced on the eve of our meetings, and the effect of which would be to exclude many of our Italian colleagues belonging to Belgian companies, now transformed into Italian companies, and the majority of the Italian economic railways, more than 2 400 km. (1 500 miles) of which were constructed by Belgian engineers thirty years ago. We could no longer, as has been pointed out by Mr. Lanino, bring to the Congress that spirit of economy which should influence the study of every question, even those of a technical nature.

When large companies introduce technical improvements, the economic aspect may not appear to them of the first importance. We, however, have to be more careful, because we have to bear in mind the necessity for an immediate return on capital in view of the shorter duration of our concessions. We have accordingly to consider the technical aspect in conjunction with the economic aspect.

It is for this reason that the work of the 5<sup>th</sup> section has always been of great utility; it is only necessary to consult the publications of the Congress in order to recognise that the section has collaborat-



ed actively in the development and improvement of secondary railways and railways of local interest.

This year the members of the 5<sup>th</sup> section have also followed the deliberations of the 2<sup>nd</sup> section, and I believe I am justified in saying that our collaboration has not been without some value. I cannot, therefore, too strongly urge you not to decide on the exclusion of the secondary railways, but to maintain the existing situation. (*Applause.*)

Mr. Suss, Madrid-Saragossa-Alicante Railway. (In French.) — I would like to point out that a large number of secondary railways have been built in Italy and in Spain with the aid of Belgian and French capital, and some of them exclusively from such sources; and I have had the opportunity of observing personally that the collaboration of the engineers of these different nations has been extremely efficacious and cordial.

I agree therefore with those of my colleagues who consider that it would be an injustice, and even a lack of good faith towards allies and friends, to adopt measures which would exclude many of these railways from the Association to which they have belonged since its formation, and to the development of which they have so powerfully contributed.

I am strongly in favour, therefore, of maintaining the *statu quo* as regards companies which already belong to the Association, and, if you consider it absolutely necessary, of modifying the conditions of admission for the future only. (*Applause.*)

The President. (In Italian.) — I would ask the delegates to make their remarks as brief as possible. I realise that the question is a very important one, but the time at our disposal is limited.

Mr. Schiavon, Italian State Railways. (In Italian.) — On a point of order Mr. Ottone has put forward an urgent and debatable point, and it is that question which must be considered first of all, and settled. We have, however, lost our bearings during the discussion: we have got away from this point in order to discuss whether the amendments introduced into articles 2 and 13 are just and acceptable or not. We have, however, before everything else, to consider whether the General Meeting should discuss and vote on the former proposal of the Permanent Commission, or on the new one, or on the still later one.

It is necessary, therefore, for the General Meeting to decide at once whether it intends to open the discussion on the text submitted by the Permanent Commission a month ago, or on the proposition which was yesterday brought to our notice for the first time.

The President. (In Italian.) — I believe that Mr. Verdeyen has just dealt with the question which Mr. Schiavon calls a debatable question, and in my opinion he has dealt with it satisfactorily. He has said that the procedure followed in the present instance is that adopted in the past. I consider, therefore, that instead of losing time over such a question, it would be more profitable to endeavour to arrive at some form of agreement, and I believe you will all share my opinion.

I think that our colleague, Mr. Biraghi, has put the question clearly and concretely. He has said, if I remember correctly, that the new Association can do as it pleases, but that it is necessary to respect the rights acquired by those companies which already belong to the Association. That is a sound proposition on which I think we can all agree, and I

trust that our colleague, Mr. Ottone himself, will share our opinion.

I think Mr. Biraghi's point would be met if in the second paragraph of the text as finally suggested, the word « or » were replaced by « and », that is to say if the wording were as follows :

« 2° Permanent Associations and Unions of companies directly working railways operated by mechanical means, which include at least 1 000 km. (621 miles) of lines not yet represented in the Association. »

Mr. Simonetti, Transport Federation, Italy. (In Italian.) — The question which has been raised does not concern only delegates now present, but also those who are absent. It is obviously always in order for a General Meeting to discuss those questions on the Agenda on which the Rules and Regulations allow of discussion; but it is not possible for delegates now present to decide to discuss a subject or question not explicitly on the Agenda, which is not therefore properly a matter on which a proposal can be laid before the General Meeting.

The question raised by Mr. Ottone cannot therefore be settled by any form of agreement. It is a question of procedure which must be settled by asking the General Meeting to consider whether it will discuss the proposal submitted at the expiration of the statutory period of one month, or whether it considers that it can discuss the new proposal.

We can arrive at no agreement at the moment. If necessary, agreement can be reached on the merits of the question after having come to a decision with regard to the debatable question, but not before. We cannot, therefore, having regard to the point of order raised by our colleague, formulate any decision on this question, which concerns the very exist-

ence of the Association and the interests of absent members.

Mr. Just, Sud Railway, France. (In French.) — The good feeling which has characterised the proceedings of this Congress will have an excellent influence in the future and upon the progress of railway science. The proposal put forward by the Special Commission is, however, dangerous not only from the point of view of that progress, but also from a sentimental point of view.

There are small companies which are at present making praiseworthy efforts to evolve a more economic form of working, and it is precisely these small companies which are in a position to furnish us with valuable information on economic questions. We must not, therefore, exclude them. Why destroy that unity among us which is at present so complete?

Under these circumstances I do not suggest that we should reject this proposal, but that we should adjourn it for consideration at the next Congress. (*Applause from certain members.*)

Mr. Colson, Ministry of Public Works, France. (In French.) — I do not think it is possible to adjourn this question to the next Congress.

In the discussion which has just taken place it seems to have been too generally overlooked that we are not an old Association in process of transformation, but a new Association in process of constitution, and that, therefore, all the members who are inscribed in the list of founders will belong definitively to this Association without any possibility of their being excluded.

All we can do, therefore, is to come to an agreement among ourselves, as founders of the new Association, on the point

of determining what new members shall be admitted.

I realise the extreme unpleasantness of not being able to open wide the door to all companies of whatever size, where such companies have taken part in the work of previous Congresses. It must be admitted, however, that the increasing number of delegates constitutes, for the countries which offer us their hospitality, a source of difficulty, which will increase still further if our Association extends its scope, as we hope it will, to those countries which at present are insufficiently represented in it. If then we do not appreciably reduce our numbers, we may arrive at the point at which our size will render the Congress impracticable.

What formula can we adopt in order to avoid prejudicing existing rights? I cannot supply the answer. I would, however, venture to suggest a solution which might perhaps work satisfactorily if it were accepted by our colleagues of the small railway companies.

That solution would consist in deciding that the existing small company members may continue to belong to the Association, provided they form part of a group having a minimum « mileage » of, let us say, 500 km. (311 miles), such a group to count as a single member.

There are numerous examples in many countries of small companies being grouped into one financial unit, which can easily arrange for their collective representation.

Is not this solution one which would prove satisfactory in the majority of cases?

**Mr. Ottone.** (In French.) — We are at present attending the 9<sup>th</sup> Congress. We have been asked to consider certain modifications in the Rules and Regulations. It cannot, therefore, be alleged that we are

here for the purpose of constituting a new Association. (*Applause from certain members.*)

I demand therefore that the President put the preliminary question to the vote.

**Mr. Colson.** (In French.) — The former Association has been legally dissolved. A provisional Association has been formed which does not yet possess a formal constitution, because up to the present there has been no meeting of a constituent assembly. Such a meeting takes place to-day.

**Mr. Ottone.** (In French.) — That does not appear on the Agenda for to-day.

**Mr. Colson.** (In French.) — That is not so. There is a set of provisional Rules and Regulations which it is proposed to transform into permanent Rules and Regulations. But it cannot be contended that there exists an Association already duly constituted, and that the preliminary question is justified, because there has been no constituent assembly to form our Association.

**Mr. Lanino.** (In Italian.) — I will speak in French in order that the delegates may immediately understand my remarks, and that no time may be wasted.

On the day of the visit of the King of the Belgians to Ghent the Institute of Italian Engineers sent a telegram to the late Mr. Weissenbruch, and we received a reply conveying the thanks of the Permanent Commission. We had, therefore, the impression, and indeed the conviction, that the Association had not been dissolved. If then any authority has considered itself empowered to take that step, its action was unjustifiable.

The Congress of Rome is known as the 9<sup>th</sup> Congress, which in itself proves the continuity of the Association. The As-



sociation has not been dissolved, and we consider it as still in existence.

Mr. Scialoja who is a jurist will be able to tell us whether I am correct or not.

Mr. Colson. (In French.) — Our Association was constituted in Belgium, under the law of that country; it has been dissolved by the Belgian tribunals and put under sequestration, and its property has been confiscated. Certain countries which were affiliated to the old Association have ceased to send representatives.

Mr. Verdeyen, *general secretary*. (In French.) — Mr. Colson has already dealt with this question in an article which appeared in the *Bulletin*.

Mr. Scialoja, National Society of Railways and Tramways, Italy. (In French.) — In my opinion, in spite of the sequestration, the Association has never ceased to exist, and a convincing proof of this is that the administrations have been invited to pay their subscriptions. It seems to me that this is an undeniable sign of vitality. (*Laughter*.)

The fact of our having been called upon to amend the old Rules and Regulations is evidence that the Association is still in existence for if it had been dissolved the wording of the Agenda would not have been « Amendment of Rules and Regulations », but « Compilation of new Rules and Regulations ».

Mr. Colson. (In French.) — Our Rules and Regulations were provisional only.

Mr. Scialoja. (In French.) — I think, therefore, that it is imperative to adjourn consideration of this question to a future Congress. The members who have taken part in the work of this session very naturally imagined that they were asked to amend the Rules and Regulations, not to make new ones. I consider, therefore,

that the question should appear on the Agenda of the next Congress under the head : « Constitution of the Association. »

Mr. Tondelier, President of the Permanent Commission. (In French.) — It is a mistake to think that the old Association has not been dissolved; it has been dissolved on legal authority. As Mr. Colson has just reminded us, the Association has been sequestered, its dissolution has been pronounced, and part of its property has been seized.

The question with which we are concerned to-day has been the subject of an article which has been brought to your notice under the title : « Compilation of Rules and Regulations of the International Railway Association. »

« Compilation of Rules and Regulations » can only mean the drawing up of Rules and Regulations for the new Association, and not the amendment of those of the old Association.

We have in fact to modify the provisional conditions under which we have been reconstituted. When, after the dissolution of the old Association, we again united, we followed the Rules and Regulations of the old Association, but we deleted the word « Congress » from the title, which became « International Railway Association ».

We now propose to re-adopt the old title, because it better expresses our object than if it were called merely « International Railway Association ».

I would repeat that the old Association has been dissolved, that it no longer has any existence, and that the object of our meeting is to compile new Rules and Regulations.

Mr. Just. (In French.) — In spite of the unfavourable reception with which our proposition seems to have met, I think

I must insist on its being put to the vote of the General Meeting. (*Hear, hear.*)

We can only conclude that the opposition shown must be actuated by some quite special considerations. If we are to be excluded, I demand that we be furnished with a categorical indication to that effect.

The fear of seeing the number of members increase more and more is not a serious reason. The Association numbers at the present time more than 1 400 delegates, and you can see for yourselves that scarcely a hundred are present at this General Meeting. One may well imagine what will be the size of General Meetings in the future if you reduce the number of delegates.

Mr. Colson. (In French.) — You must bear in mind not merely the actual number of members present, but the number of members registered. As this latter number is continually increasing, it is to be feared that soon no country will feel inclined to receive us. (*Some dissent.*)

Mr. Just. (In French.) — This ninth session has been a great success judging by the number of members registered. I would like to ask the organisers, and in particular Mr. Alessandri, whether he experienced a single moment's apprehension when he learned the number of participating members. I am convinced that on the contrary he was delighted to register them; and what Italy has done, other countries will be equally ready to do, and I maintain that this excuse is really not an excuse.

Mr. Ottone. (In French.) — There is one point upon which I would like to insist very briefly: It is that we have been called together to assist in the work of the ninth session of the Congress, which work was specified in detail. One

of the items on the Agenda is « Modification of the Rules and Regulations of the Association ». Rules and Regulations can only be modified by observing the procedure laid down in those Rules and Regulations. This is the question with which this General Meeting has to deal. Moreover, without entering into details, I will content myself with saying that if this discussion on the modifications to be made in the Rules and Regulations is to take place, we should not take advantage of it to agree to the exclusion of numerous small railway companies which up to the present have belonged to the Congress, and whose representatives have followed with interest and profit the discussions which have taken place.

Mr. Biraghi. (In French.) — I would like to be allowed to ask two further questions.

The principal reason for the proposed modification appears to be a desire to reduce the number of delegates registered at the Congress; but on the other hand I have heard the hope expressed by the same speaker that several countries which at present take only a small share in our work will see their way to take a more prominent place in the Association. I am wondering, therefore, whether there is not some confusion as to the real object which it is desired to attain. On the one hand it is desired to exclude some who already belong to the Association, and on the other it is intended to invite others to replace them.

We are told that we are met to form a new Association. If that is the case, why has our work been directed by the Permanent Commission? It was obviously necessary first of all to form the Association. You cannot run counter to the accepted order of things. You have held meetings, you have assumed powers



which belong to our Association, and you have called us together to consider the provisional Rules and Regulations.

I cannot understand this introduction of new conditions at the eleventh hour. It is incomprehensible, and I protest in the name of my colleagues. (*Applause from certain members.*)

**Mr. Lanino.** (In French.) — The Italians present are glad to have heard an appeal made to respect the law. In this connection it may be remembered that we are in Rome, the birth-place of law.

We are engineers, but we must respect the law; if, however, we accept resolutions such as those which are now before us, we shall be offending the law.

I demand, therefore, that the preliminary question be put to the vote.

**Mr. Verdeyen.** (In French.) — I feel it my duty to protest against the reproach brought against us for having called together the delegates to constitute a new Association.

After the Armistice the Association was dissolved, and all the railway companies, with the exception of one Dutch company, as well as all the Governments of allied and neutral countries, have accepted the invitation to meet. Everybody knew perfectly well, therefore, that it was necessary at this Congress to constitute a new Association. We have even been so exact as to change the title of the Association.

It would therefore be scarcely logical to say that we have not the right to propose new Rules and Regulations.

The old Association has been dissolved, and the railway administrations have agreed to participate in the new one. Everything that has been done, therefore, is in order.

**Mr. F. Level.** (In French.) — I would

like, Gentlemen, if possible, to introduce a word of calm into the debate.

It is incontestable that if the war had not taken place, the question with which we are concerned today would not have arisen. The only exclusion necessary — and you have effected it — was that of the enemy of yesterday, who is also the impenitent enemy of to-day. As regards other members, however, let it not be said that this disastrous war has had the further unfortunate result of disuniting us.

You are aware that at all the Congresses held up to the present there has never been discussion at the General Meetings. You know that harmony has always reigned on every subject. Is it not reasonable to conclude from all that has been said that the question should remain in abeyance, because at the moment none of us has found a formula calculated to give satisfaction to the interests involved. (*Applause from certain members.*)

**The President.** (In Italian.) — What has been called a debatable question has been raised as to the legality of the presentation of proposals for the reform of the Rules and Regulations, or better, for the constitution of a new Association.

In view of what has been said by the President of the Permanent Commission of our Association and by the General Secretary. I will put to the vote this question : « May we now proceed to consider the proposals which have been submitted? » Will those who agree that we may do so please signify this by show of hands.

— The decision is in the negative.

**Mr. Verdeyen.** (In French.) — It follows from this decision that the General Meeting is unwilling to modify article 2



of the suggested Rules and Regulations.

**Mr. Heurteau, Paris-Orleans Railway.** (In French.) — It is rather the adjournment of the question which has been voted.

**Mr. Verdeyen.** (In French.) — Consideration of that part of article 2 which determines what companies may belong to the Association is, therefore, adjourned to the next Congress.

**A Delegate.** (In French.) — With the same number of delegates.

**Mr. Bruneel, Belgian State Railways.** (In French.) — The General Meeting refuses then to discuss the proposals of the Permanent Commission.

The question raised has certainly not been thoroughly understood, so much so that I myself did not know how I ought to vote.

There has evidently been a misunderstanding which is in danger of dividing us, as Mr. Level has said. The moment is very critical.

**The President.** (In Italian.) — In order that our colleagues may have an opportunity of consulting among themselves I suspend the sitting for a few minutes.

— The sitting was suspended at 5.10 p. m. and resumed at 5.40 p. m.

**The President.** (In Italian.) — Following on the remarks which have been made regarding the proposals published in the 25 April number of the *Daily Journal of the session*, and the amendments which have not been adopted by the General Meeting, and since the General Meeting considers that the proposed new Rules and Regulations have been presented in due form by means of the Re-

print distributed some time ago to members of the Congress, it will now be in order for us to open the discussion on the text proposed in this Reprint.

**Several Delegates.** (In Italian.) — Yes, yes, we agree.

**The President.** (In Italian.) — Of course apart from demanding amendments in certain articles during the discussion.

**Some Delegates.** (In Italian.) — The General Meeting has supreme powers.

**The President.** (In Italian.) — Do you consider it necessary to read all the articles, or may we take them as read?

**Several Delegates.** (In Italian.) — Take them as read.

**The President.** (In Italian.) — We may therefore confine ourselves to reading article 17, for which it is proposed to substitute article 18 of the new text. I will first of all read the article in the old text :

« ARTICLE 17. — The expenses of the Congresses, of the Permanent Commission and of the Executive Committee shall be covered by :

« 1° The annual subscriptions of members;

« 2° Subsidies and other casual receipts.

« The annual subscriptions shall consist of :

« a) In the case of adherent governments, an amount fixed by themselves;

« b) In the case of participating administrations, a fixed sum of 100 francs, plus a sum proportionate to the mileage of the system. This variable sum, which

is required to meet the expenses of the Association, shall not exceed 25 centimes per kilometre.

« The financial year shall begin on the 15 April. »

It is proposed to replace this article by the new article 18, which differs from the old article as follows : The fixed subscription of 100 francs is increased to 200 francs, which is necessary in order to cover the expenses of the Association; the subscription which varies according to the mileage of the system is increased from a maximum of 25 centimes per kilometre to a maximum of 50 centimes. (*Hear, hear.*)

« ARTICLE 18. — The expenses of the Congresses, of the Permanent Commission and of the Executive Committee shall be covered by :

« 1° The annual subscriptions of members;

« 2° Subsidies and other casual receipts.

« The annual subscription shall consist of :

« a) In the case of adherent governments, an amount fixed by themselves;

« b) In the case of participating administrations, a fixed sum of 200 francs Belgian currency, plus a sum proportionate to the mileage of the system. This variable sum shall not exceed 50 centimes Belgian currency per kilometre;

the actual rate to be fixed by the Permanent Commission.

« The financial year shall begin on the 1 January. »

Some Delegates. (In French.) — Agreed.

Mr. Verdeyen. (In French.) — If members have no further observations to make, the proposed Rules and Regulations as contained in the Reprint of my Report shall be considered as adopted, except that :

1° The amended wording suggested by the Special Section in the various Articles shall be incorporated in the final text;

2° Article 17 (subscriptions) shall be replaced by article 18, which has just been read to you.

The Permanent Commission is consequently empowered to settle the final wording of the Rules and Regulations <sup>(1)</sup>.

— Carried.

The President. — I am glad to see so delicate a question settled, and I hope that the new subscriptions will meet the needs of our Association, for the future prosperity of which we now express our good wishes. (*Applause.*)

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(1) The final text of the Rules and Regulations adopted by the Permanent Commission at its meeting of the 15 July 1922 was published in the September 1922 number of the *Bulletin of the International Railway Congress Association*.



